

2011 PVPLC Annual Preserve Management Report

Palos Verdes Nature Preserve
May 15, 2012
City Council Meeting

Land Conservancy



**Annual Report
January 2011-Dec. 2011
For the
Rancho Palos Verdes Draft Natural
Communities Conservation Plan and
Habitat Conservation Plan**

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Attachments 1-46

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I INTRODUCTION

The 2011 Palos Verdes Nature Preserve Report for the Rancho Palos Verdes Natural Community Conservation Plan provides annual submittal requirements by the Palos Verdes Peninsula Land Conservancy (PVPLC) on the status of the Palos Verdes Nature Preserve (Preserve). Additionally this report details stewardship activities, research, funding, and community involvement in the Preserve during the period January 1, 2011 through December 31, 2011.

PVPLC serves as the management agency for the Palos Verdes Nature Preserve (Preserve) for the City of Rancho Palos Verdes (RPV). The Preserve encompasses approximately 1,400 acres and is located on the southern side of the Palos Verdes Peninsula in the City of Rancho Palos Verdes, California. The Preserve was formed under a Draft Natural Community Conservation Plan (NCCP) to “maximize benefits to wildlife and vegetation communities while accommodating appropriate economic development within the City of Rancho Palos Verdes and region pursuant to the requirements of the NCCP Act and Section 10(a) of the ESA (URS 2004a).” As a primary component of the NCCP, a Preserve design was proposed to conserve regionally important habitat areas and provide habitat linkages in order to benefit sensitive plants and wildlife. PVPLC manages the Preserve under an operating agreement with RPV.

The primary focus of management for the Preserve is to maintain or restore habitat for the covered plant and animal species listed in the draft NCCP. A Habitat Management Plan was adopted in 2007 that outlines the restoration of 5 acres per year for a total of 15 acres over a 3-year period. This plan also outlined the methodology for removal of exotic plant species, a predator control plan, and the monitoring of covered plant and animal species. PVPLC attempts to seek additional funding when possible, to perform restoration on more than the minimum 5 acres per year required in the NCCP. Several opportunities of this nature occurred during the reporting period that will enable PVPLC to conduct additional restoration over the next 3 years (2012-2014).

PVPLC also facilitates scientific research and trail maintenance projects in the Preserve. Volunteers make up a large component of the management strategies for the Preserve. They assist in monitoring the properties, wildlife, and habitat as well as help restore habitat and maintain trails. Partnering with regional high schools and colleges allows for scientific research that expands our understanding of the Preserve.

The Management Agreement with RPV requires that PVPLC submit an annual report to the RPV City Council describing management activities with respect to habitat enhancement and restoration, property maintenance and monitoring, vegetation and wildlife monitoring, and efforts on targeted exotic plant removals. This report provides annual submittal requirements

on the status of the Preserve for the period of January 1, 2011-December 31, 2011. It is accompanied by a status report for the Targeted Exotic Removal Program for Plants (TERPP). Volunteer involvement and support and student-based scientific research are also described in this report.

The NCCP Implementing Agreement has not been signed by the regulatory agencies, and therefore, the NCCP is technically not officially executed. However, because it is anticipated that this agreement will be signed in the near future, this annual report was provided to satisfy the requirements of both the Management Agreement with RPV and the reporting requirements of the Draft NCCP. Annual reporting requirements for the Draft NCCP are detailed below. Additionally, once every three years, a Comprehensive report is required. The most recent Comprehensive Report covered the period 2007 through 2009.

Annual submittals (included in this report)

1. A monitoring report on habitat restoration areas using standard monitoring protocol as detailed in the Preserve Habitat Restoration Plan
2. Report on Targeted Exotic Plant Removal Efforts
3. Report on trail maintenance projects.

Site Description

The Preserve is located on the southern side of the Palos Verdes Peninsula in the City of Rancho Palos Verdes, California (Figure 1). The approximately 1,400-acre Preserve has been divided into ten areas referred to as Reserves (Figure 1).

Table I: Reserve Names of the Palos Verdes Nature Preserve. See Figure I for locations.

| | |
|-------------------------|-------------------------|
| Abalone Cove Reserve | San Ramon Reserve |
| Agua Amarga Reserve | Three Sisters Reserve |
| Alta Vicente | Upper Filiorum Reserve |
| Forrestal Reserve | Vicente Bluffs Reserve |
| Portuguese Bend Reserve | Vista del Norte Reserve |

The topography of the Preserve is diverse, ranging from relatively flat lowland areas above steep coastal bluffs in the south, to very steep slopes, ridgelines and gullies on the slopes to the north. Elevations range from approximately sea level along the coastal edges of Vicente Bluffs, Abalone Cove, and Ocean Trails to approximately 1,300 feet above mean sea level at the northern most parcel, vista del Norte. Adjacent land uses include single-family residences on most sides, open space associated with neutral lands on the Peninsula, the Pacific Ocean to the south and west, and the Los Verdes and Trump National golf courses near the western and eastern ends of the Preserve area.

Figure 1: Map of the Palos Verdes Nature Preserve with associated Reserves locations.



2 HABITAT RESTORATION

Habitat Management Plan

The initial Preserve Habitat Management Plan (PHMP) for the Draft NCCP was created in 2007. A component of the PHMP was the Habitat Restoration Plan for the restoration of 5 acres per year for a total of 15 acres over the first 3-year period. This plan was completed in April 2007 and concluded that Alta Vicente Reserve in the Preserve ranked the highest in terms of site suitability for an immediate restoration project. The Habitat Restoration Plan for Alta Vicente Reserve outlines appropriate revegetation locations and methodology to adequately comply with the Preserve Management requirements of the Rancho Palos Verdes NCCP.

The Habitat Restoration Plan for Alta Vicente Reserve provides guidelines for the establishment of coastal sage scrub (CSS), coastal cactus scrub (CCS), and butterfly habitat on a total of 15 acres during 3 consecutive years at the Alta Vicente Reserve. However, since a fire occurred at Portuguese Bend Reserve in August 2009, plans were adapted to focus immediate restoration at Portuguese Bend, and only Phase 1 and 2 (10 acres) were implemented at Alta Vicente.

The following provides a brief description of work done to fulfill the NCCP during the reporting period. Table 2 provides the implementation schedule for Phase 1 and Phase 2 at Alta Vicente and Portuguese Bend.

Alta Vicente Reserve

The habitat restoration at the Alta Vicente Reserve consists of two 5-acre phases, with one phase initiated each year. The first 5 acres of restoration (Phase 1) began with site preparation during the fall of 2007. Phase 1 plants were installed and hydroseeded during the winter of 2009/2010. Site preparation for Phase 2 began in Fall 2008. In December 2010, staff removed *Acacia cyclopsis* and completed planting and seeding in the Phase 2 area. In 2011, staff weeded and maintained Phase 1 and 2. In Spring 2012, additional container plants will be installed to fill in the space.

Draft NCCP annual reporting requirements include a monitoring report on habitat restoration areas using a standard monitoring protocol for years 1, 2, 3 and 5 during the 5-year maintenance and monitoring period that follows plant installation. Monitoring at Alta Vicente began in 2010.

Table 2: Restoration Project Schedule for Alta Vicente Reserve Phases 1 and 2. This table has been modified from its original content in the 2007 Habitat Restoration Plan to reflect activities only in Phase 1 and 2.

| | Task | Date |
|----------------|--|---|
| PHASE 1 | Site clearing and soil preparation | Fall 2007, Fall 2008 |
| | Installation of temporary irrigation system | Fall 2008 |
| | Weed/exotic removal and grow-kill cycles | Fall 2008-Spring 2009 |
| | Planting container stock | Early Winter 2009/2010 |
| | Hydroseed application | Winter 2009/2010 (following planting) |
| | Completion of installation/assessment of site installation | Following completion of installation and seeding and 120 day maintenance period |
| | 5-year biological monitoring and maintenance | Spring 2010-Spring 2014 |
| | Phase one completion | 2014, end of Year 5 |
| PHASE 2 | Site clearing and soil preparation | Fall 2008, Fall 2009 |
| | Installation of temporary irrigation system | Fall 2008, Fall 2009 |
| | Weed/exotic removal and grow-kill cycles | Fall 2008, Fall 2009,-Spring 2010 |
| | Planting container stock | Winter 2010/2011 |
| | Seed application | Winter 2010/2011 (following planting) |
| | Completion of installation/assessment of site installation | Following completion of installation and seeding and 120 day maintenance period |
| | 5-year biological monitoring and maintenance | Spring 2011-Spring 2015 |
| | Phase two completion | 2015, end of Year 5 |

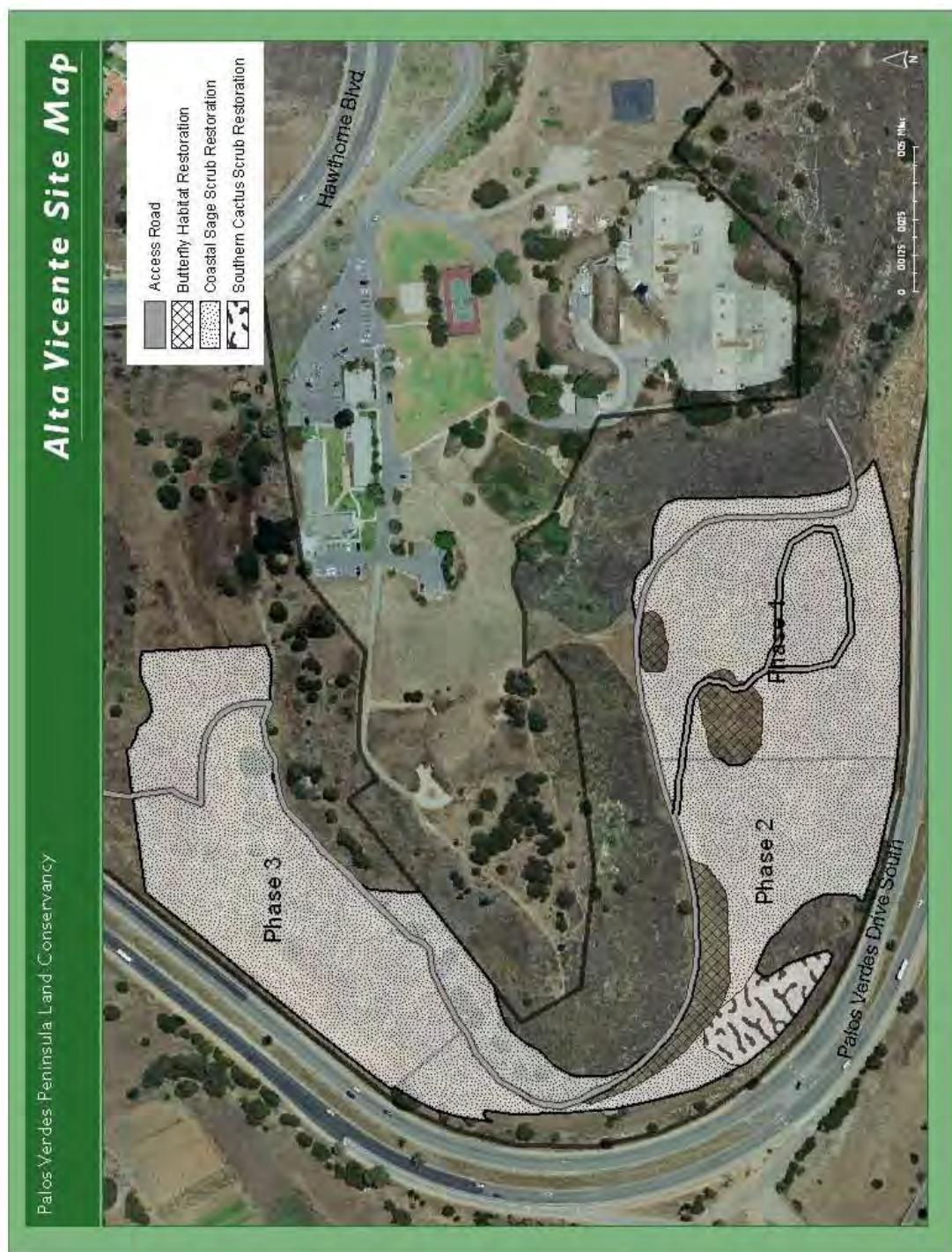


Figure 2: Map of Restoration Areas at Alta Vicente Reserve. Phase 3 has been postponed to implement burn recovery at Portuguese Bend.

Portuguese Bend Reserve

A restoration plan for Portuguese Bend Reserve was completed July 2010, and can be found in the Comprehensive Management and Monitoring Report 2007-2009. The July 2010 restoration plan subdivided the restoration area into 3 polygons to be completed in 3 phases. The total area of these polygons was 21 acres, to permit the selection of focal areas within these polygons.

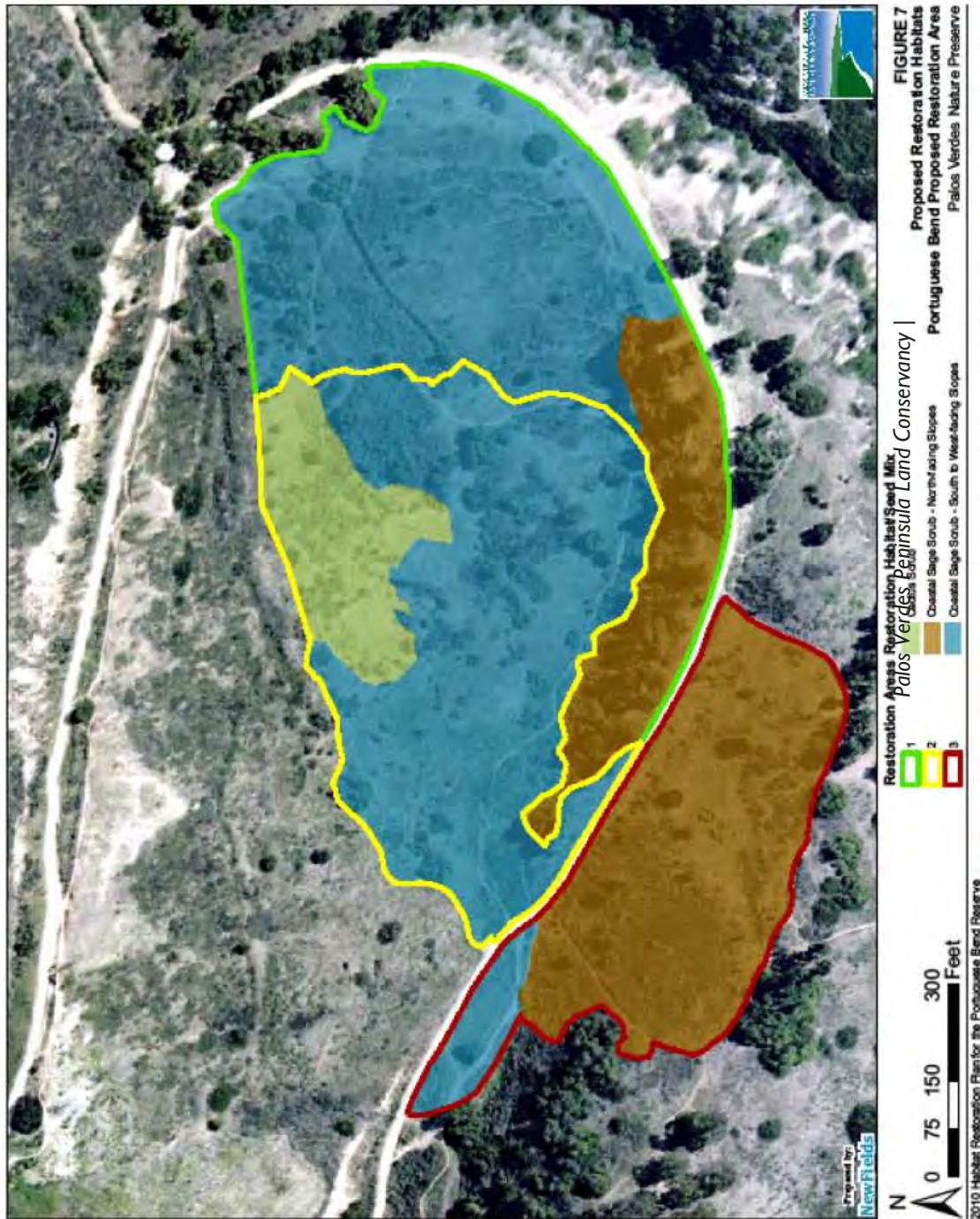
Site preparation at Portuguese Bend began in February 2010. Field staff weeded (hand/herbicide) the burn area, and targeted fennel with herbicide. In February, 2011, goats were deployed in the NCCP area to clear vegetation. Since then, staff has been controlling weeds, with plans for “grow and kill” cycles in 2012 to reduce weed density prior to planting in Fall 2012. Due to the high density of weeds, an additional year of weeding was implemented, and 10 acres will be installed in Fall 2012. In 2012, PVPLC will install container plants on all of the Phase 1 site described in the Restoration Plan (8 acres) and the cactus scrub portion of Phase 2 site described in the Plan (2 acres), totaling 10 acres of restoration.

PVPLC obtained permission to install irrigation on 8 acres to enable “grow and kill” prior to plant installation, and improve seed and plant survival after planting. Two acres of cactus scrub will be planted in a non-irrigated area.

Table 3: Restoration Project Schedule for Portuguese Bend Reserve Phases 1, 2 and 3, based on the Portuguese Bend Reserve Habitat Restoration Plan.

| | Task | Date |
|---------------------------------------|---|-----------------------------|
| PHASE 1 and PHASE 2 (cactus scrub) | Begin site preparation, weed removal | Fall 2010 |
| | Install irrigation | Winter 2012 |
| | Final site preparation: weed and thatch removal | Fall 2012 |
| | Installation: Seeding and planting | Fall 2012-Early Winter 2013 |
| | Maintenance weeding | Winter 2013-Spring 2014 |
| | Fill-in planting, as needed | Fall 2013-Fall 2014 |
| | 5-year biological monitoring and maintenance | Spring 2013-Spring 2017 |
| | Phase one and two completion | 2017, end of Year 5 |
| PHASE 3 | Site preparation, weed removal | Fall 2012-Fall 2013 |
| | Final site preparation: weed and thatch removal | Fall 2013 |
| | Installation: Seeding and planting | Fall 2013-Early Winter 2014 |
| | Maintenance weeding | Winter 2014-Spring 2015 |
| | Remedial seeding, as needed | Fall 2014-Fall 2015 |
| | 5-year biological monitoring and maintenance | Spring 2014-Spring 2018 |
| | Phase three completion | 2018, end of Year 5 |

Figure 3. Map of Restoration areas at Portuguese Bend Reserve.



Additional Restoration

PVPLC attempts to seek additional funding when possible, to perform restoration on more than the minimum 5 acres per year required in the NCCP. Several opportunities of this nature occurred during the reporting period. Table 4 shows the timeline for each additional restoration project.

Three Sisters

In January 2007, Los Angeles World Airports (LAWA) provided funding to conduct twenty-one acres of coastal sage scrub and perennial grassland restoration in the Three Sisters Reserve as part of mitigation for the Southwest Airfield at Los Angeles International Airport. A restoration plan was completed in 2008. In January 2009, the PVPLC began implementation of the first season of weed control, including the use of 250 goats for grazing. Acacia trees (300) were treated with a glyphosate herbicide, using the “drill and kill” method, and removed from the site. Staff systematically removed weeds such as fennel, mustard and non-native annual grasses through mechanical, hand removal, and herbicide application. An irrigation system was installed in September 2009. In December 2009, 7,930 container plants of coastal sage scrub species were planted, and the site was seeded with coastal sage scrub and native grass seeds from local sources. In Fall 2011, an additional 8,665 container plants were installed, and 4 acres of grassland were drill-seeded to increase germination success.

McCarrell's Canyon

In June 2008, a grant agreement was signed with the State Coastal Conservancy to provide restoration to seven acres of coastal sage scrub and riparian habitats at McCarrell's Canyon, which is the western boundary of Three Sisters Reserve. Due to a State funding freeze, restoration was delayed until 2010. A final restoration plan commissioned by PVPLC for all activities performed under the grant. To implement the restoration plan, staff contracted with Nakae & Associates to remove 5 acres of non-native acacia trees. In Nov 2010, PVPLC staff began weeding the restoration site, including the highly invasive *Euphorbia terracina*, and hauled out debris. In summer 2011, the Los Angeles Conservation Corps (LACC) removed another 12 acacia trees. PVPLC staff continued to weed nonnative annual grasses to prepare the site for planting in Fall 2011. In Fall 2011, one acre of riparian habitat and 3 acres of coastal sage scrub were planted. The site will be seeded in January 2012.

Pelican Cove/Fishing Access

In June 2008, a grant agreement was signed with the State Coastal Conservancy to provide restoration to three acres at the Fishing Access area of Vicente Bluffs Reserve. Due to a funding freeze, restoration was delayed until 2010. An updated habitat restoration plan for Fishing Access was commissioned by PVPLC. Site preparation and planting began in December 2009. One acre of acacia, pampas grass and ice plant were removed from the Fishing Access portion of Vicente Bluffs, and planted with coastal bluff scrub and El Segundo blue butterfly host plants.

Portuguese Bend

On August 27, 2009, the Palos Verdes Fire burned approximately 165 acres of the Portuguese Bend Reserve, affecting both native and non-native vegetation and known nesting sites of the threatened coastal California gnatcatcher (*Polioptila californica californica*) and the special status

cactus wren (*Campylorhynchus brunneicapillus*). To address the impacts of the fire, PVPLC created a Fire Recovery Plan in October 2009 (PVPLC 2009).

A Department of Fish and Game Local Assistance Grant funds restoration in the burn area at Portuguese Bend. The grant provides funding to restore native habitat through non-native plant control and removal, provide supplemental native planting in areas of historic cactus scrub, and perform post-fire monitoring for California gnatcatchers and cactus wrens. Invasive species removal and planting was implemented from Fall 2010 to Fall 2011. A total of three (3) acres of cactus scrub was installed (see map).

In March 2010, the City of El Segundo provided funding to conduct 9.5 acres of coastal sage scrub and perennial grassland restoration at Portuguese Bend as part of mitigation for the Plaza El Segundo Development. The restoration site is on the upper portion of the Ishibashi Trail. Staff worked with the California Conservation Corps Weed Strike Team to clear approximately 5 acres of mustard and fennel in the burn area. In Fall 2010, the 9.5 acre-site was seeded with native grasses and coastal sage scrub. Low germination occurred at the site, most likely due to low rainfall. Therefore, in Fall 2011, container plants were installed in 5 foot-wide strips, separated by 10-foot buffers. This technique will allow the buffer area to fill in with native plants over time. Dri-water gel was installed with the container plants.

Figure 4 provides a site map for each restoration project, including the restoration at Alta Vicente and Portuguese Bend Reserves that fulfills the requirements of the NCCP Habitat Restoration Plan.

Figure 4. Site map for all 2011 restoration projects in the Palos Verdes Nature Preserve.



Table 4: Restoration project schedule for additional restoration in Palos Verdes Nature Preserve.

| | | |
|--|--|--|
| Three Sisters Restoration 21 Acres | Task | Date |
| | Seed collection | Winter 2008-Spring 2009 (again in second year if necessary) |
| | Initial site preparation/weeding | Winter 2008-Spring 2009, Fall 2009 |
| | Final site preparation(mowing/thatch removal) | Fall 2009 |
| | Seeding and container planting | Fall 2009 |
| | Irrigation installation | Summer 2009 |
| | Maintenance | Winter 2009-Spring 2010 |
| | Remedial seeding | Fall 2010 (if needed) |
| | 3-year monitoring (horticultural and performance) | Winter 2008-Spring 2011 |
| | Task | Date |
| McCarrell's Canyon Restoration 4 Acres | Site clearing and soil preparation | Winter 2008/2009-Fall 2009 |
| | Planting container stock | Winter 2009/2010 |
| | Seeding application | Winter 2009/2010 (following planting) |
| | Completion of installation/assessment of site installation | Following completion of installation and seeding and 120 day maintenance period. |
| | 3-year monitoring and maintenance | To begin upon successful installation of restoration work |
| | Task | Date |
| Vicente Bluffs Restoration 4 Acres | Site clearing and soil preparation | Winter 2009/2010 |
| | Planting container stock | Winter 2010/2011 |
| | Seeding application | Winter 2010/2011 (following planting) |
| | Completion of installation/assessment of site installation | Following completion of installation and seeding and 120 day maintenance period. |
| | Task | Date |
| Portuguese Bend El Segundo Grant 9.5 acres | Site preparation and weed control | Spring 2010-Fall 2010 |
| | Seeding | Winter 2010/2011 |
| | Completion of installation/assessment of site installation | Following completion of installation and seeding and 120 day maintenance period. |
| | 3-year monitoring and maintenance | To begin upon successful installation of restoration work |
| | | |

| Portuguese Bend Local Assistance Grant (LAG) | Task | Date |
|--|--------------------------|--------------------|
| | Invasive species removal | Fall 2010-Mar 2011 |
| | Native planting | Fall 2010-Mar 2011 |
| | | |
| | | |

3 MONITORING

RESTORATION

PVPLC staff performed annual photo point monitoring. The photo point records now document several years of changing site conditions, and public use. PVPLC's stewardship staff conducted a variety of surveys at the restoration sites throughout the preserves. Vegetation transect surveys were conducted using standardized methods that provide data on the cover of native and non-native plants in the habitat. In 2011, restoration monitoring was completed at Alta Vicente Reserve. The plants in the restoration area are healthy, and success criteria are being met. Detailed results are in Appendix A.

COVERED SPECIES

The NCCP/HCP requires updated surveys for covered plants and animals on the Preserve every three years. Results for the 2010-2012 survey period will be covered in the Comprehensive Management and Monitoring report, in March 2013.

The draft NCCP/HCP includes a total of six covered plant species. They are aphanisma (*Aphanisma blitoides*), south coast salt scale (*Atriplex pacifica*), Catalina crossosoma (*Crossosoma californicum*), island green dudleya (*Dudleya virens* ssp. *insularis*), Santa Catalina Island desertthorn (*Lycium brevipes* var. *hassei*) and woolly seablitz (*Sueda taxifolia*). In March 2011, surveys were conducted for aphanisma and south coast salt scale in the Palos Verdes Nature Preserve.

Surveys were conducted for the El Segundo blue butterfly at Vicente Bluffs and Abalone Cove Reserves (see attached report). The 2011 survey was conducted as a good faith follow-up from the 2010 triennial survey where only two ESB were observed. Surveys were conducted at 13 sites possessing host plant, twelve that were surveyed in 2010 and one additional site where host plant were discovered. Weekly surveys were conducted from June 7 through July 28, with a hiatus during June 11 and 20. Only one ESB was observed in the survey areas, an individual flying from Terranea Resort to Fishing Access across the parking lot. A visual assessment indicated that host plant numbers were low, which could explain the low number of ESB. A number of factors could affect host plants, including slope failure, competition from non-native, invasive plants, and sea water inundation at the bottom of the bluffs. The restoration at Vicente Bluffs in 2011 should benefit the butterfly. The next survey will take place during the next triennial monitoring period in Summer 2013.

Surveys for California gnatcatcher and coastal cactus wren were conducted at Portuguese Bend Reserve. A detailed report of the bird monitoring surveys is located at the end of this Annual Report. Post-fire surveys took place in 2010 and 2011. The biologist followed the routes previously established for 2006 and 2009 surveys, in order to make results comparable. Results indicate that both species are still using the site, possibly in similar numbers as pre-fire. One major stand of cactus that had wrens burned, and has not recovered, but wrens may have moved to another part of the site. Based on two years of data (2010 and 2011), the site continues to support numbers of both the cactus wren and the California gnatcatcher, although one of the two known active territories of cactus wren present in 2009 was apparently lost to

the fire, which destroyed nearly the entire cactus patch that was being used by the birds. Surveys in 2011 found both species slightly more widely than those in 2010, suggesting that each may still be attempting to recolonize (or at least travel through) areas burned in 2009.

VEGETATION MAPPING

PVPLC staff completed vegetation mapping in the burned portion of Portuguese Bend Reserve, and created updated vegetation maps, as part of a Dept. of Fish and Game Local Assistance Grant.

4 TARGETED EXOTIC REMOVAL PROGRAM FOR PLANTS

The Targeted Exotic Removal Program for Plants (TERPP) is an element of the Preserve Habitat Management Plan for the Draft NCCP that requires the annual removal of exotic plant species of twenty individual populations or five acres found in the Preserve. The TERPP provides protocol for ranking the degree of threat to native vegetation, the feasibility of eradication, and the invasiveness of each exotic species found in the Preserve. Populations of exotic plant species are then targeted for removal based on the results of the ranking outcome. The 2011 TERPP Report documents PVPLC's effort during the reporting period to fulfill the requirements of the TERPP plan. It details the methods of assessing the threat of individual exotic species to native vegetation, field methods for removal, and provides site-specific documentation related to every completed removal. The complete 2011 TERPP Report can be found in Appendix B of this report.

5 BRUSH CLEARANCE

Brush clearance is the clearing or minimizing of vegetation in areas that occur immediately adjacent to residential structures and roads. RPV is responsible for ongoing maintenance of brush clearance within the Preserve, to provide an appropriate level of fire protection, emphasizing the protection of life, public safety, and property values in the urban-wildlife interface areas while minimizing environmental impacts of fire suppression and control. A portion of the Agua Amarga Reserve is owned by PVPLC and falls under their responsibilities to maintain brush clearance requirements. All of these requirements were met in May and June 2011. No other fuel modification areas within the Preserve fall under the responsibility of PVPLC.

6 SCIENTIFIC RESEARCH AND WILDLIFE MONITORING

The Preserve is an ideal setting for an outdoor laboratory, because it provides scientists and students with access to a variety of habitat. A report of 2011 research is located in Appendix C.

7 TRAIL MANAGEMENT AND MONITORING

Filiorum Reserve trail workshops

Trail recommendations, based on 2010 public workshops and comments, were incorporated into a recommended trail design with trail user designations, for review by City Council in 2012. Trail recommendations were posted on a blog, the City and PVPLC websites.

State of the Trails meeting

In 2011, 40 people participated in a workshop for the entire Preserve, titled the “State of the trails” workshop. Groups of participants rotated through six stations covering groups of reserves, and shared ideas for improved trails, signs and maps. An additional table presented educational information on habitat and wildlife of the Preserve. Participants’ comments were then considered, and incorporated into recommendations to the City Council. At the City Council meeting, users will have another opportunity to voice their concerns and preferences.

Trail Management

One of the directives of the draft NCCP was to minimize the number of trails within the Preserve, to ensure the conservation of habitat, while continuing to provide public access. In 2006, the Public Use Master Plan Committee was formed to provide recommendations for naming of the Preserve, forming a Preserve Trails Plan and reviewing other guidelines for public use of the Preserve. The Preserve Trails Plan was brought before the RPV City Council over the course of several meetings during early 2008. The Preserve Trails Plan for the Palos Verdes Nature Preserve was approved in February 2008 and City Council directed the PVPLC to initiate several management tools. Among these were the development of educational materials to alert the public to the new approved trail system and the sensitivity of the habitat and to install signage throughout the Reserve indicating trail names and uses.

PVPLC continues to place trail maps for the whole PVNP, created in 2010, at major trailheads, and post them on PVPLC’s website.

PVPLC staff continues to maintain trail markers, close unauthorized trails, and provide trail brochures.

In 2011, PVPLC completed a Preserve-wide signage inventory and is collaborating with City staff on improving and standardizing signage throughout the Preserve and Parks.

Trail Monitoring

PVPLC stewardship staff or volunteers from the Keeping an Extra Eye on the Preserve for Environmental Review and Stewardship (Keepers) Program conducted all trail monitoring during the reporting period. The Keepers program is described in detail in the Volunteer Involvement section of the report (Appendix D). Monitoring was typically limited to overall trail conditions such as erosion, hazards, and vegetation overgrowth.

Trail Markers and Decals

In 2011, staff replaced and repaired trail signage (21 decals, 7 carsonite sign posts) and removed graffiti on signs throughout the Preserve.

Trail Repair

A PVPLC volunteer trail crew assists in much of the trail work on the Preserve. A complete summary of the PVPLC Volunteer Trail Crew Program can be found in the Community Involvement section of the report (Appendix D). PVPLC staff or RPV Public Works department were also involved in trail enhancements.

Two grants have permitted additional trail work on the Preserve. A Habitat Conservation Fund grant provided funding for trail restoration, spur trail closure, and improved signage at Portuguese Bend Reserve. A grant from the Coastal Conservancy is funding development of the California Coastal Trail through the City of Rancho Palos Verdes, including a section through the Preserve.

The following lists the trail projects that were conducted in 2011.

Abalone Cove

- The volunteer trail crew repaired trail tread on Sacred Cove Trail.

Forrestal

The Volunteer Trail Crew visited Forrestal on five occasions, working on the Dauntless Trail, completing a trail assessment, and repairing grade dips on Flying Mane Trail.

Portuguese Bend

The volunteer trail crew completed a class on tread work at Portuguese Bend.

The volunteer trail crew dismantled a bike jump on Ishibashi Trail.

In October 2011, PVPLC contracted with Bellfree Contractors to better define the Ishibashi Trail route, and close several spur trails in the area.

In October 2011, staff met with Rolling Hills Community Association and property owners at Rolling Hills who desired closing the loop connecting the Rim trail to the Fire Station Trail. City and PVPLC informed trail users of the change on their websites, and placed signage at trailheads and the Portuguese Bend kiosk.

Upper Filiorum

The volunteer trail crew cleared the Cutacross Trail, and completed a canyon crossing assessment.

Vicente Bluffs

- The LACC planted cactus and bluff plants along a fenced spur trail at Pelican Cove, to discourage use.

Future Trail Projects

Future trail projects are listed in Appendix E.

Ranger Program

The City has continued contracting with the Mountains Recreation and Conservation Authority (MRCA) to provide rangers at the Preserve.

8 VOLUNTEER INVOLVEMENT

PVPLC is a non-profit organization that relies heavily on the support of community involvement to perform many of the tasks necessary to manage the Preserve. The Volunteer Annual Report for January 1, 2011 through December 31, 2011 is located in Appendix D.

2011 Officers

Ken Swenson, President
 Bruce Biesman-Simons, Exec. Vice President
 Susan McKenna, Secretary
 Marc Crawford, Treasurer

2011 Board of Directors

Bill Ailor, President Emeritus
 Allen Franz
 Cassie Jones
 Henry Jurgens
 Elizabeth Kennedy
 Mike Kilroy
 Leslie McShane
 Jess Morton
 Joseph Platnick
 Anke Raue
 Jack Smith
 John Spielman
 William Swank
 Grace Wallace
 Pam Westoff

2011 Staff

Executive Director

Andrea Vona

Office Administration

Hazel Martinez, Office Administrator
 Jill Wittman, Administrative Assistant
 Sue Cody, Accountant

Land Stewardship

Danielle LeFer, Conservation Director
 Cristian Sarabia, Stewardship Manager
 Adrienne Bosler, Stewardship Associate
 Ann Dalkey, Stewardship Associate (Research)
 Daniel Feldman, Stewardship Technician
 Damian Morando, Stewardship Technician
 Hugo Moralez, Stewardship Technician
 Humberto Calderon, Stewardship Technician
 Neli Gonzalez, Nursery Technician

Education Program

Kristina Ellis, Education Director (January to May 2011)
 Siegrun Storer, Education Director (August 2011 to present)
 John Nieto, Education Manager

Development

Nancy Young, Development Director
 Louise Olfarnes, Communications Manager
 Mary Lopes, Donor Relations

George F. Canyon Nature Center

Loretta Rose, Manager/Naturalist
 Laurie Morgan, Assistant Naturalist

White Point Nature Education Center

Roxanne Roberts, Naturalist
 Jessy Melowicz, Naturalist

APPENDIX A

2011 RESTORATION MONITORING REPORT

Transect monitoring at restoration sites took place at Alta Vicente on May 5, 2011. Locations of photo points are on Figure 1. Results of the Alta Vicente surveys are provided below.

I SURVEY RESULTS

Phase 1

Coastal Sage Scrub (CSS)

Native plant cover in the CSS site (AV1) in 2010 was about 10%, the performance standard for year 1 (10%) (see *Photo 1*). The container plants were healthy. Recruitment from seed was very low. Recommendations were to continue weed control and monitor for seedling recruitment.

Native plant cover in 2011 in the CSS site (AV1) was approximately 15%, slightly lower than the performance standard of 20% for year 2 (See *Photo 2*). Container plants were healthy, but there was still very little recruitment from seed. Recommendations were to continue weeding, and to fill-in plant in Fall 2011 to make up for the lack of recruitment from seed.

Palos Verdes Blue Butterfly Habitat (PVB)

No photos were taken of the native plant cover in the PVB site (AV2) in 2010, but visual inspection indicated that cover was approximately 10%, the performance standard for year 1 (10%). The container plants were healthy. Recruitment from seed was very low. Recommendations were to continue weed control and monitor for seedling recruitment.

PVB vegetation cover in Phase 2 was approximately 10%, lower than the performance standard of 20% for year 2 (See *Photo 3*). Some plants had died back, but were releafing from the base. Recommendations were to continue weeding, and to fill-in plant in Fall 2011 to compensate for the lack of recruitment from seed.

Phase 2

Cactus Scrub

Native plant cover in the cactus scrub site (AV3) in 2011 was approximately 15% (see *Photo 4*). The container plants were healthy. Recruitment from seed was observed. Recommendations were to continue weed control.

Coastal Sage Scrub (CSS)

Native plant cover in the CSS site (AV4) in 2011 was approximately 10% (see *Photo 5*). The container plants were healthy. Recruitment from seed was observed. Recommendations were to continue weed control.

Palos Verdes Blue Butterfly Habitat (PVB)

Native plant cover in the PVB habitat (AV5) in 2011 was approximately 40% (see Photo 6). The container plants were healthy. Seedling recruitment was observed. Recommendations were to continue weed control.

PLANT INVENTORY

A plant inventory conducted during the monitoring in 2010 and 2011 identified 11 native species (Table 1). Plants were identified on either side (within one meter) of a 50 meter transect in Phase 1 and Phase 2.

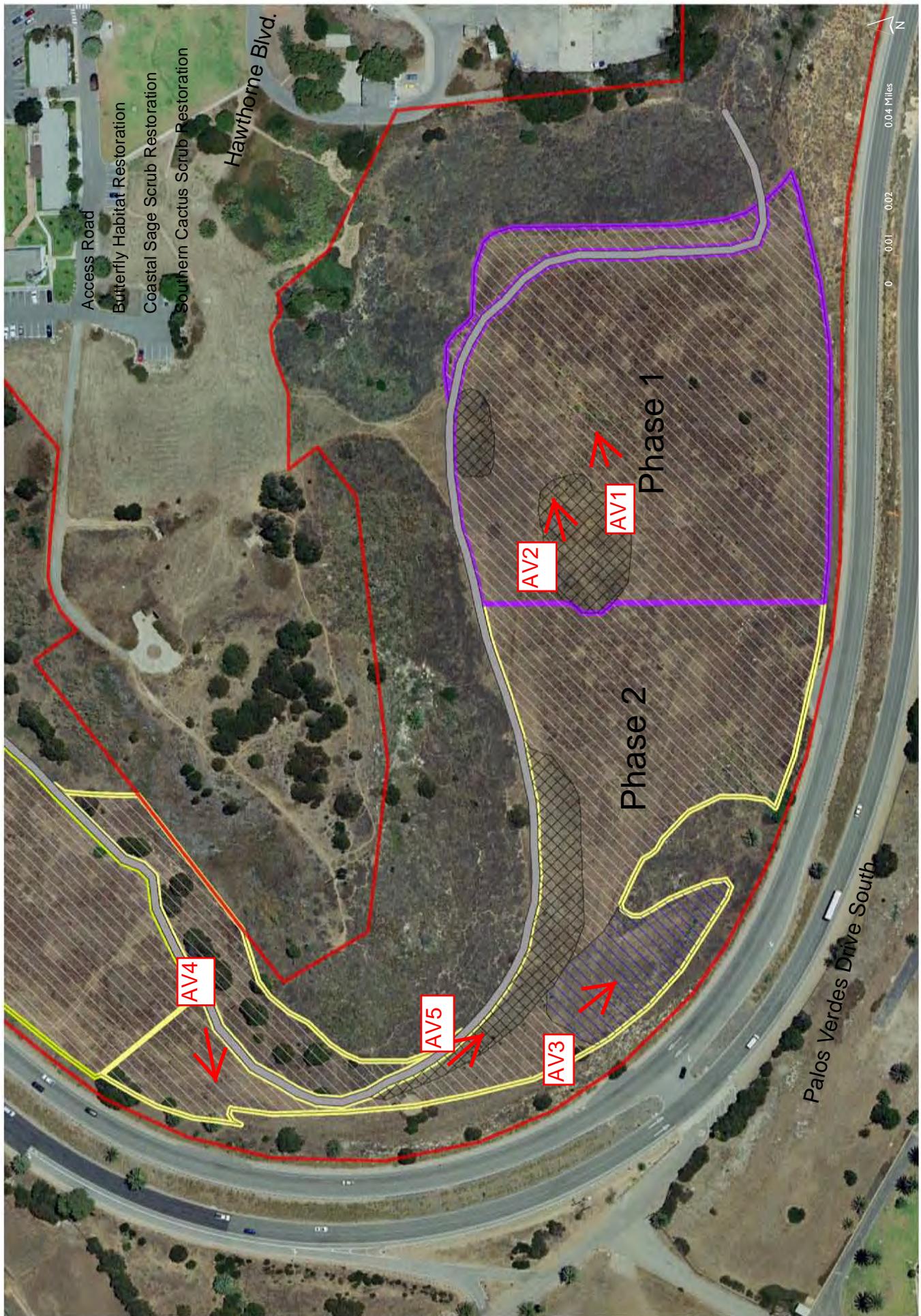
Table 1. Plant inventory at Alta Vicente, 2010 and 2011.

| Species |
|---------------------------------|
| <i>Artemisia californica</i> |
| <i>Astragalus trichopodus</i> |
| <i>Cylindropuntia prolifera</i> |
| <i>Encelia californica</i> |
| <i>Eriogonum cinereum</i> |
| <i>Eriogonum parvifolium</i> |
| <i>Heteromeles arbutifolia</i> |
| <i>Isomeris arborea</i> |
| <i>Leymus condensatus</i> |
| <i>Lupinus succulentus</i> |
| <i>Opuntia littoralis</i> |

2 CONCLUSIONS AND RECOMMENDATIONS

Container plants in the Phase 1 restoration area are surviving and growing. However, recruitment from seed has been low. Fill-in planting in 2011, and recruitment from seeds from mature plants, will increase native cover in the future.

The Phase 2 restoration is meeting success criteria for year 1, and native plant cover will continue to increase as container plants mature, and seedlings germinating from seed increase in size.



1. Phase 1: CSS 2010 (Yr 1) (AV1)



2. Phase 1: CSS 2011 (Yr 2) (AV1)



3. Phase 1: PVB habitat 2011 (Yr 2) (AV2)



4. Phase 2: Cactus scrub 2011 (Yr 1)(AV3)



5. Phase 2: CSS 2011 (Yr 1) (AV4)



6. Phase 2: PVB habitat 2011 (Yr 1) (AV5)



APPENDIX B

ANNUAL REPORT FOR THE TARGETED
EXOTIC REMOVAL PROGRAM FOR
PLANTS (TERPP)

I INTRODUCTION

The Palos Verdes Peninsula Land Conservancy (PVPLC), as manager of the Palos Verdes Nature Preserve (PVNP), conducts strategic weed control activities throughout the year as part of the Targeted Exotic Plant Removal Plan for Plants (TERPP). As directed in the draft Rancho Palos Verdes Natural Communities Conservation Plan (NCCP), PVPLC selects five acres or 20 small sites of exotic plants for removal each year. The overall goal of this program is to systematically target invasive species throughout the PVNP to increase the success of native plant growth and create greater habitat opportunities for wildlife.

The TERPP is an element of the NCCP that includes a specific protocol for ranking exotic species populations and strategically removing those species over time (Appendix B-G). The 2011 TERPP Report documents PVPLC's effort over the past year to remove exotic plant species that threaten native vegetation in the PVNP. It details the methods of assessing the threat of individual exotic species to native vegetation, field methods for removal and provides site-specific documentation related to every completed removal site.

As of the writing of this report, the NCCP is still in draft format and the regulatory agencies have not yet signed the final plan. However, the City of Rancho Palos Verdes and PVPLC currently perform the responsibilities outlined in the draft NCCP, including fulfillment of the TERPP requirements.

2 SITE ASSESSMENT

Invasive species control is included in PVPLC's annual conservation planning strategy where Stewardship staff prioritize potential TERPP sites and assess best practice methods for removal. Guided by the NCCP, which ranks known PVNP exotic species based on State and Federal guidelines, PVPLC staff locate TERPP sites to target for the calendar year, assess the best method for eradication, photo document and map the population/s, and conduct weed removal accordingly.

The PVPLC weighs potential areas for exotic species control based on several criteria:

- I. Threat to native vegetation, particularly populations of NCCP-covered species;
2. Feasibility of eradication, which includes limiting disturbance to native habitat and ease of access, and;
3. Invasiveness of exotic species, using a synthesized rating system drawn from plant invasiveness rankings from both the California Invasive Plant Council (Cal-IPC) and the California Department of Food and Agriculture (CDFA).

Through regular property reviews and viewing fine scale imagery through the Geographic Information System (GIS), ArcGIS, PVPLC plans for exotic species control across the entire NCCP area.

Staff primarily documents completed TERPP sites on the TERPP field form. Appendix A contains a sample TERPP form. The forms provide basic information about the species targeted, including site identification number and property, approximate location, removal methods used, and general comments related to the removal activities. PVPLC also includes photo documentation: staff photographs the sites before work takes place and after the removal of the individual or population of exotic species. Photo documentation not only confirms completion of the work, but also provides a snapshot of the surrounding environment at the time of the TERPP-related activities. This record helps to create a historical record of the presence of non-native plant species on the sites, which may inform future restoration efforts.

Each TERPP site is tracked via GIS, a tool that aids planning and monitoring efforts. Since 2006, PVPLC has treated 68 TERPP sites, and the program is ongoing. Every year, tracking, documenting and planning for the following year becomes more complicated as more sites are added. Use of GIS allows staff not only to look at the land within the NCCP boundaries, but to view the Palos Verdes Peninsula at a landscape level. While the most common approach to managing invasions of exotic species may be to target individual species, a more comprehensive approach is to identify major pathways for invasion that will influence more efficient and economic management of the exotic species.

3 FIELD METHODS

PVPLC staff uses best practice, the most effective and least intrusive, methods at all times when conducting TERPP-related activities. High priority areas may occur near rare or endangered biological populations. Care is taken to minimize soil erosion, fire risk, disturbance to surrounding native vegetation and further dispersal of the exotic species. PVPLC utilizes a combination of methods to conduct exotic species removal, generally limited to the following:

- Mechanical removal - staff may use tools with motorized blades to fell larger species;
- Hand removal - staff conduct most removals by hand pulling and/or with small hand tools for pruning and cutting;
- Chemical control - trained staff applies herbicides at the appropriate phase of vegetative
- Growth and seed maturation, and;
- Disposal - City of Rancho Palos Verdes staff coordinate with waste companies to supply green waste and trash containers.

Qualified Licensed Applicator(s) develop all recommendations for chemical pest control and senior staff supervises field staff and contractors in sensitive areas. Additionally, field staff has an integral role in the TERPP and often have crucial, site-specific knowledge related to the sites.

4 2011 TERPP

In 2011, PVPLC treated 20 populations of *Euphorbia terracina* (Geraldton spurge, Euphorbia), in addition to treating approximately 5 acres of Euphorbia at the San Ramon Reserve (Figure 1). Euphorbia grows rapidly in disturbed areas, is a prolific seeder and is rapidly expanding its distribution in southern California. Invaded areas show reduced ecological quality and inferior habitat quality compared to un-invaded areas. Continued spread of this species throughout California seems possible and even likely if action is not taken immediately. Euphorbia shows a broad habitat tolerance in southern California, invading both cool coastal areas and hot, dry, interior areas. The Euphorbia eradication on the Preserve has been part of the twice funded (2008, 2010) Los Angeles County Weed Management Area (WMA) Euphorbia Grant. The project's goal is to control populations of Euphorbia occurring throughout the Peninsula.

In addition, PVPLC removed two populations of *Arundo donax* (Table 1).

Figure 1: *Euphorbia terracina* treatment sites 2008 to 2011.

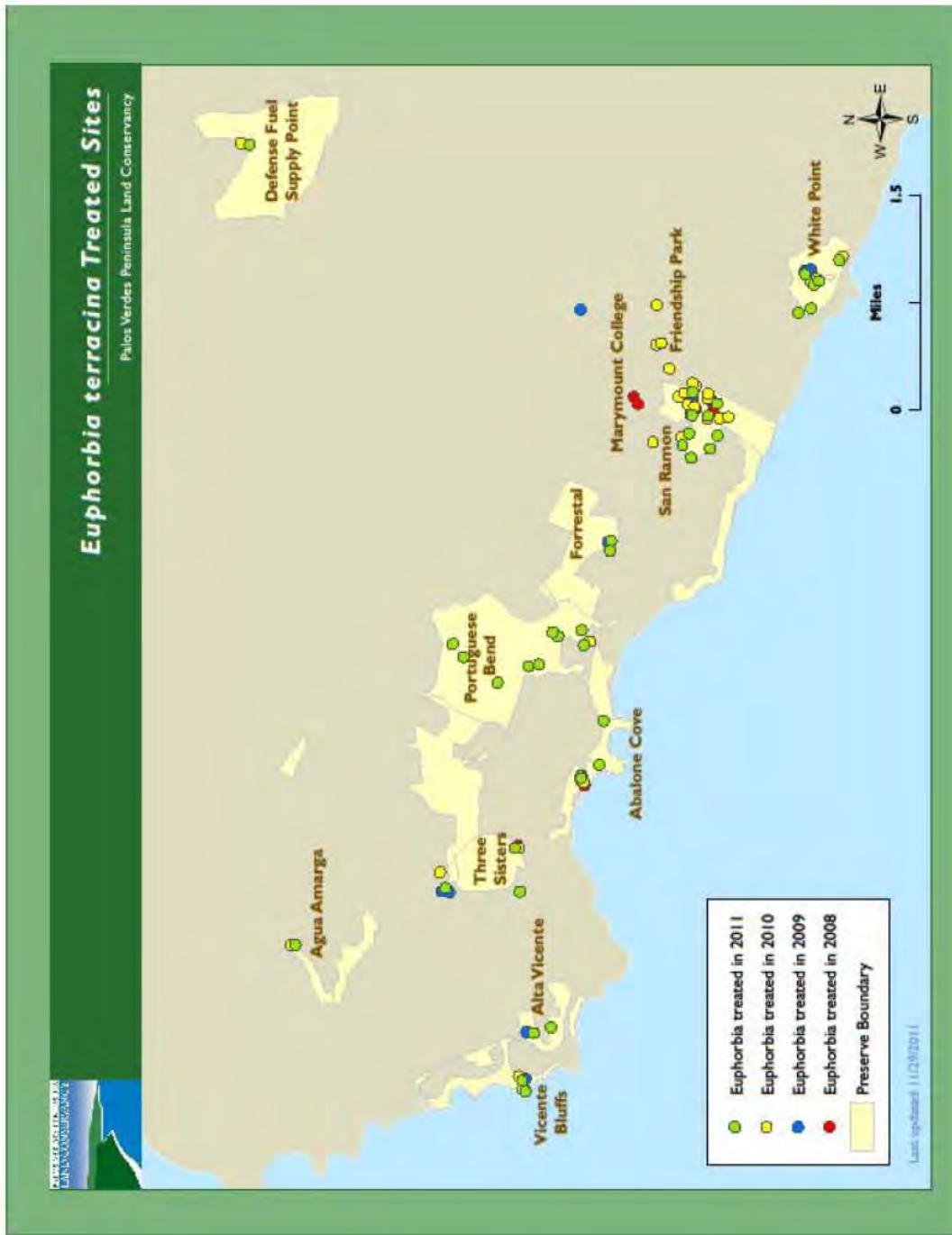


Table I: 2011 TERPP treatments.

| Site number | Species | Date | Location | Population size | Method | Phenology |
|--------------------|---------------------|---------------|---------------------------------|------------------------|---------------|-------------------------|
| 1 | <i>E. terracina</i> | Apr/June 2011 | Abalone Cove and PV Drive south | 10 | pull | sprouting and flowering |
| 1 | <i>E. terracina</i> | Jan/Mar 2011 | Abalone Cove at PV Drive south | 10 | spray | flowering and sprouting |
| 2 | <i>E. terracina</i> | Apr/June 2011 | Abalone Cove Canyon | 1000 | pull/spray | all stages |
| 2 | <i>E. terracina</i> | Nov/Dec 2011 | Abalone Cove canyon | 175 | pull/spray | flowering/sprout |
| 3 | <i>E. terracina</i> | Apr/June 2011 | Abalone Cove Olmstead trail | 150 | pull/spray | flowering |
| 3 | <i>E. terracina</i> | Nov/Dec 2011 | Abalone cove, Olmstead | 100 | spray | flowering/sprout |
| 4 | <i>E. terracina</i> | Jan/Mar 2011 | Aqua Amarga | 75 | spray | sprouting |
| 4 | <i>E. terracina</i> | Nov/Dec 2011 | Aqua Amarga | 75 | spray | Flowering/sprouting |
| 5 | <i>E. terracina</i> | Apr/June 2011 | Alta Vicente 1 | 250 | spray | all stages |
| 6 | <i>E. terracina</i> | Apr/June 2011 | Alta Vicente 2 | 100 | spray | all stages |
| 7 | <i>E. terracina</i> | Jan/Mar 2011 | Alta Vicente phase 3 | 1 | pull | flowering |
| 8 | <i>E. terracina</i> | Apr/June 2011 | Forrestal at Forrestal Drive | 25 | pull | flowering |
| 9 | <i>E. terracina</i> | Apr/June 2011 | Forrestal at Quarry Trail | 30 | pull | sprouting |
| 9 | <i>E. terracina</i> | Jan/Mar 2011 | Forrestal Pirate trailhead | 15 | pull | sprouting |
| 10 | <i>E. terracina</i> | Apr/June 2011 | Vicente Bluffs | 200 | spray | all stages |
| 10 | <i>E. terracina</i> | Jan/Mar 2011 | Vicente Bluffs | 100 | spray | flowering and sprouting |
| 10 | <i>E. terracina</i> | Nov/Dec 2011 | Vicente Bluffs | 100 | spray | flowering/sprout |
| 11 | <i>E. terracina</i> | Jan/Mar 2011 | Vicente Bluffs culvert | 175 | spray | sprouting |
| 11 | <i>E. terracina</i> | Apr/June 2011 | Vicente Bluffs culvert | 125 | spray | spouting and flowering |
| 11 | <i>E. terracina</i> | Nov/Dec 2011 | Vicente Bluffs culvert | 100 | spray | flowering/sprout |

| | | | | | | |
|----|---------------------|---------------|--------------------------------------|---------|------------|-------------------------|
| 12 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend at Ishibashi trail | 40 | spray | flowering |
| 13 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend NCCP site | 100 | spray | sprouting and flowering |
| 13 | <i>E. terracina</i> | Nov/Dec 2011 | Portuguese Bend, NCCP | 100 | pull/spray | flowering/sprout |
| 14 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend at Kubota trail | 25 | spray | flowering |
| 14 | <i>E. terracina</i> | Nov/Dec 2011 | Portuguese Bend, Kubota | 20 | pull/spray | flowering/sprout |
| 15 | <i>E. terracina</i> | Jan/Mar 2011 | Portuguese Bend at Peppertree | 75 | spray | flowering and sprouting |
| 15 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend Peppertree trail | 170 | spray | flowering |
| 16 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend at PV Drive south | 100 | spray | flowering |
| 16 | <i>E. terracina</i> | Jan/Mar 2011 | Portuguese Bend at PV Drive South | 300 | spray | flowering and sprouting |
| 16 | <i>E. terracina</i> | Nov/Dec 2011 | Portuguese Bend at PV Drive South | 50 | hand pull | flowering/sprout |
| 16 | <i>E. terracina</i> | Nov/Dec 2011 | Portuguese Bend at PV Drive south | 30 | spray | flowering/sprout |
| 17 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend Ishibashi Farm trail | 350 | spray | sprouting and flowering |
| 17 | <i>E. terracina</i> | Jan/Mar 2011 | Portuguese Bend Ishibashi Farm Trail | 500 | spray | flowering and sprouting |
| 17 | <i>E. terracina</i> | Nov/Dec 2011 | Portuguese Bend, Ishibashi Farm | 300 | pull/spray | flowering/sprout |
| 18 | <i>E. terracina</i> | Nov/Dec 2011 | Portuguese Bend, sandbox1 | 150 | pull/spray | flowering/sprout |
| 18 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend Sandbox 1 | 200 | spray | all stages |
| 19 | <i>E. terracina</i> | Apr/June 2011 | Portuguese Bend Sandbox2 | 200 | spray | flowering and seeding |
| 24 | <i>E. terracina</i> | Apr/June 2011 | San Ramon | 5 acres | spray | all stages |
| 24 | <i>E. terracina</i> | Jan/Mar 2011 | San Ramon | > 8,000 | pull/spray | flowering |
| 24 | <i>E. terracina</i> | Nov/Dec 2011 | San Ramon, canyon grassland | 750 | hand pull | flowering/sprout |
| 20 | <i>E. terracina</i> | Jan/Mar 2011 | Three Sisters (Barkentine) | 500 | spray | flowering and sprouting |
| 20 | <i>E. terracina</i> | Nov/Dec 2011 | Three Sisters, Barkentine | 400 | spray | flowering/sprout |

| | | | | | | |
|----|---------------------|--------------|--------------------------------------|---------------|-----------|-----------|
| 21 | <i>E. terracina</i> | Jan/Mar 2011 | Three Sisters (end of Ocean Terrace) | 100 | spray | flowering |
| 22 | <i>A. donax</i> | June-Nov | Agua Amarga/Lunada Canyon | 1,600 sq feet | cut/spray | flowering |
| 23 | <i>A. donax</i> | June-Nov | Abalone Cove | 100 sq feet | cut/spray | flowering |

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State of California 2007. Department of Food and Agriculture Division of Plant Health & Prevention Services Noxious Weed Ratings. Retrieved September 2007, from: <http://www.cdfa.ca.gov/phpps/ipc/encycloweedia/pdfs/noxiousweed_ratings.pdf>.

URS 2006. City of Rancho Palos Verdes Draft Natural Community Conservation Plan and Habitat Conservation Plan. June 9.

Appendix A: SAMPLE TERPP FORM

Property:

Year selected:

Exotic vegetation type:

Access:

Reason for removal:

Method of removal:

Method of disposal:

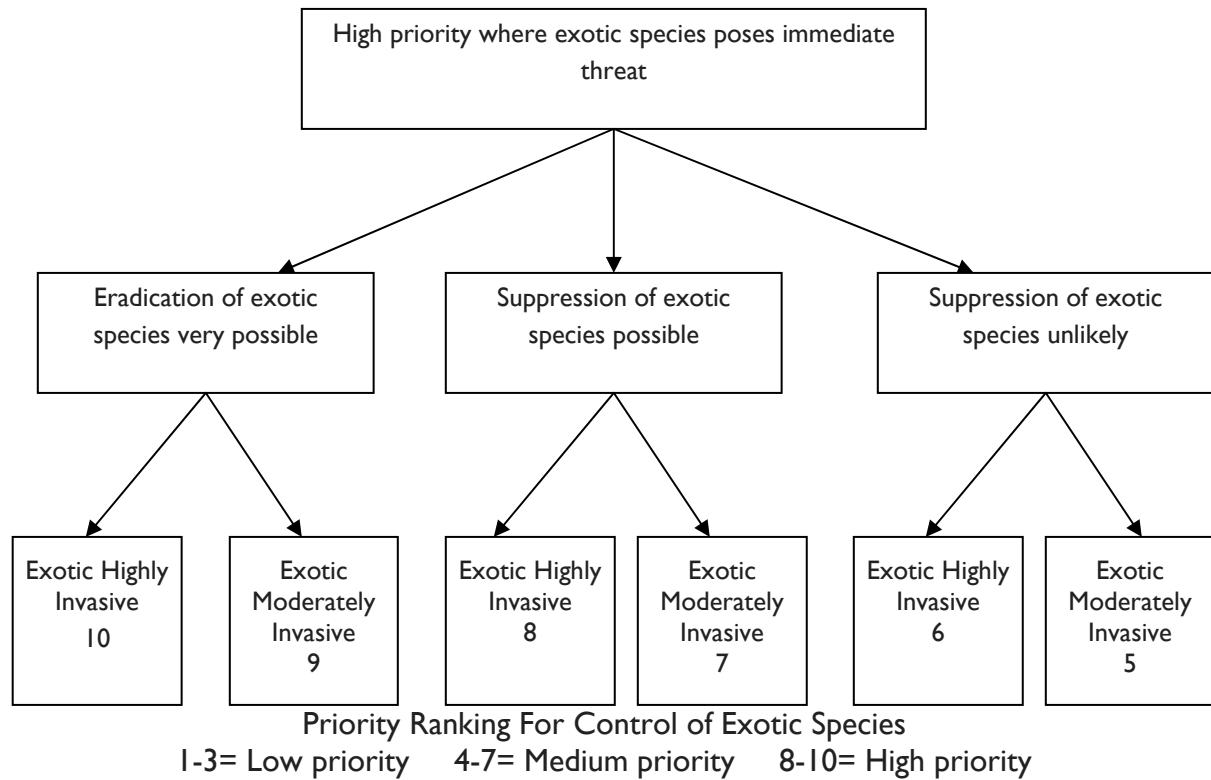
Surrounding native vegetation type:

Results:

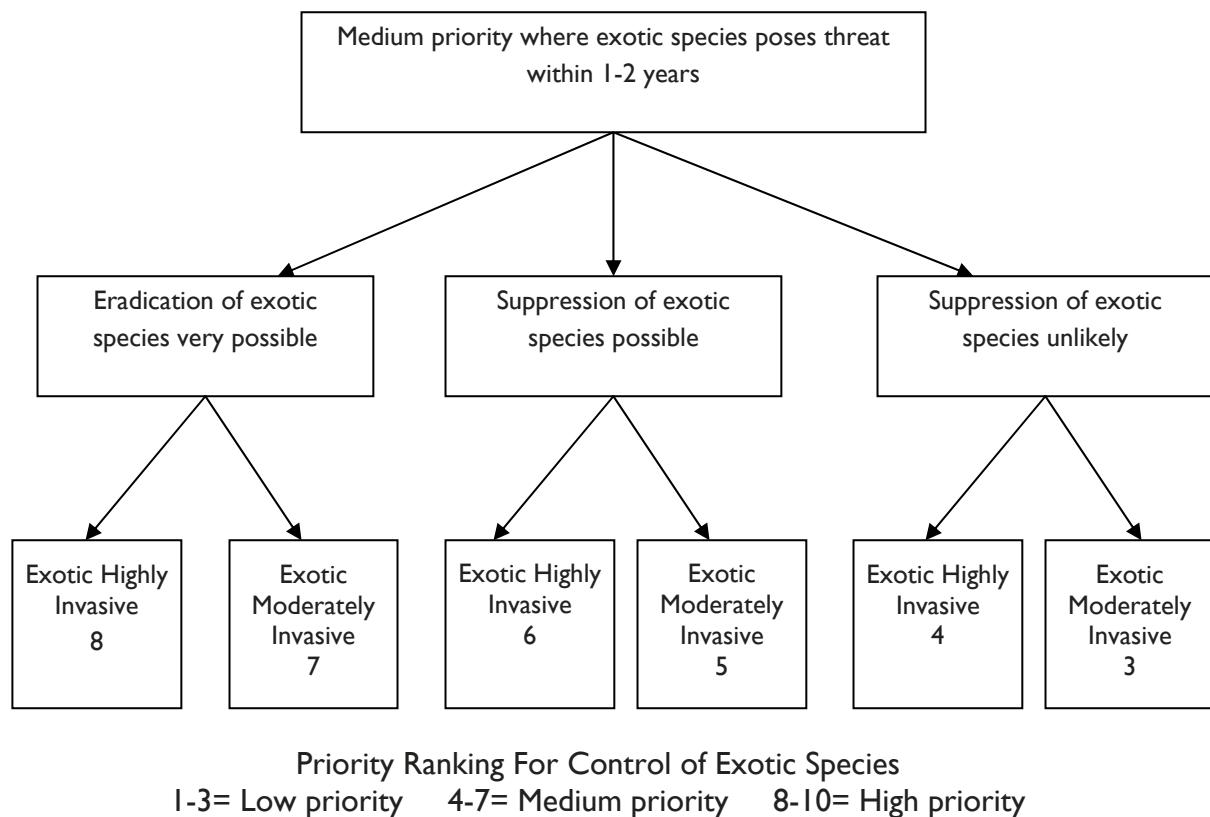
Before Photo Date:

After Photo Date:

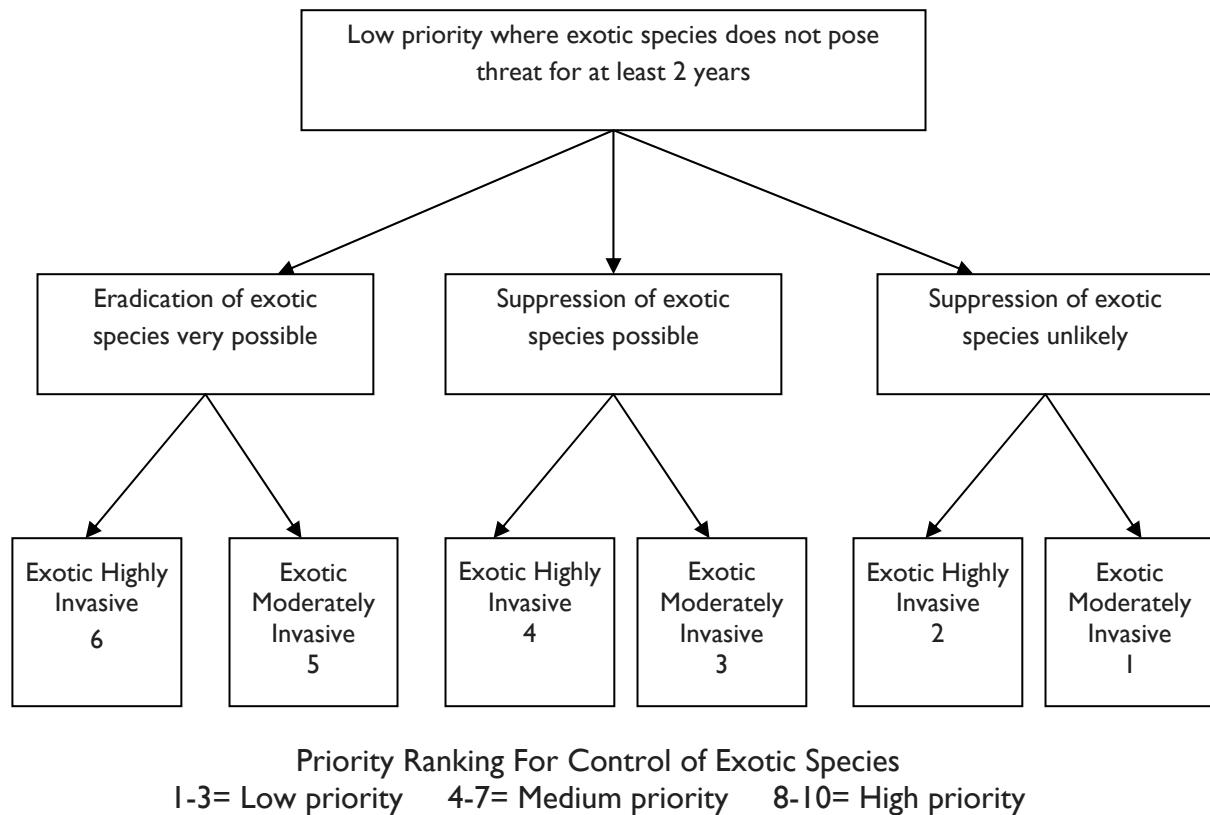
Appendix B: Flowchart for High Priority Threat to Native Vegetation



Appendix C: Flowchart for Medium Priority Degree of Threat to Native Vegetation



Appendix D: Flowchart for Low Priority Degree of Threat to Native Vegetation



Appendix E: Highly Invasive Species

| <u>Genus species</u> | <u>Common name</u> |
|---------------------------------------|-----------------------|
| <i>Arundo donax</i> | Giant reed |
| <i>Asparagus asperaagoides</i> | Bridal creeper |
| <i>Avena barbata</i> | Slender oat |
| <i>Avena fatua</i> | Wild oat |
| <i>Brachypodium distachyon</i> | False brome |
| <i>Brassica nigra</i> | Black mustard |
| <i>Bromus diandrus</i> | Ripgut grass |
| <i>Bromus madritensis ssp. rubens</i> | Red brome |
| <i>Carpobrotus edulis</i> | Hottentot fig |
| <i>Caesalpinia spinosa</i> | Spiny holdback |
| <i>Centaurea melitensis</i> | Tocalote |
| <i>Chrysanthemum coronarium</i> | Garland chrysanthemum |
| <i>Cortaderia selloana</i> | Pampas grass |
| <i>Cynodon dactylon</i> | Bermuda grass |
| <i>Euphorbia terracina</i> | Spurge |
| <i>Foeniculum vulgare</i> | Fennel |
| <i>Malva nicaeensis</i> | Bull mallow |
| <i>Malva parviflora</i> | Cheeseweed |
| <i>Malva sylvestris</i> | Mallow |
| <i>Mesembryanthemum crystallinum</i> | Annual iceplant |
| <i>Nicotiana glauca</i> | Tree tobacco |
| <i>Pennisetum clandestinum</i> | Kikuyu grass |
| <i>Pennisetum setaceum</i> | Fountain grass |
| <i>Picris echioides</i> | Bristly ox-tongue |
| <i>Pistacia atlantica</i> | Pistachio |
| <i>Pittosporum undulatum</i> | Pittosporum |
| <i>Raphanus sativus</i> | Wild radish |
| <i>Ricinus communis</i> | Castor bean |
| <i>Salsola tragus</i> | Russian thistle |
| <i>Silybum marianum</i> | Milk thistle |
| <i>Sonchus asper</i> | Prickly sow thistle |
| <i>Sonchus oleraceus</i> | Sow thistle |
| <i>Spartium junceum</i> | Spanish broom |
| <i>Tamarix species</i> | Tamarisk |
| <i>Tropaeolum majus</i> | Garden nasturtium |

Appendix F: Moderately Invasive Species

| <u>Genus species</u> | <u>Common Name</u> | <u>Genus species</u> | <u>Common Name</u> |
|-----------------------------------|---------------------------|---------------------------------|---------------------------|
| <i>Acacia cyclops</i> | Acacia | <i>Lolium perenne</i> | Perennial ryegrass |
| <i>Acacia species</i> | Acacia | <i>Marrubium vulgare</i> | Horehound |
| <i>Aegilops cylindrica</i> | Jointed goat grass | <i>Medicago polymorpha</i> | Bur clover |
| <i>Ageratina adenophorum</i> | Eupatory | <i>Medicago sativa</i> | Alfalfa |
| <i>Atriplex semibaccata</i> | Australian saltbush | <i>Melilotus albus</i> | White sweet clover |
| <i>Bassia hyssopifolia</i> | Five-Hook bassia | <i>Melilotus indicus</i> | Yellow sweet clover |
| <i>Bromus hordeaceus (mollis)</i> | Soft brome | <i>Myoporum laetum</i> | Myoporum |
| <i>Bromus catharticus</i> | Rescue grass | <i>Olea europaea</i> | Olive |
| <i>Cakiel maritime</i> | Sea rocket | <i>Oxalis pes-caprae</i> | Bermuda buttercup |
| <i>Carduus pycnocephalus</i> | Italian thistle | <i>Pelargonium zonale</i> | Zonal geranium |
| <i>Carpobrotus aequilaterus</i> | Sea Fig | <i>Phalaris minor</i> | Phalaris |
| <i>Carpobrotus chilensis</i> | Fig-Marigold iceplant | <i>Phoenix canariensis</i> | Phoenix palm |
| <i>Conium maculatum</i> | Poison hemlock | <i>Piptatherum miliacea</i> | Smilo grass |
| <i>Convolvulus arvensis</i> | Bindweed | <i>Pittosporum undulatum</i> | Pittosporum |
| <i>Erodium cicutarium</i> | Red stem filaree | <i>Plantago lanceolata</i> | English plantain |
| <i>Eucalyptus camaldulensis</i> | Red gum tree | <i>Polygonum aviculare</i> | Knotweed |
| <i>Eucalyptus globulus</i> | Blue gum tree | <i>Polygong monspessulensis</i> | Rabbitsfoot |
| <i>Eucalyptus species</i> | Gum tree | <i>Pyracantha sp.</i> | Firethorn |
| <i>Hirschfeldia incana</i> | Annual mustard | <i>Rumex crispus</i> | Curly dock |
| <i>Hordeum murinum leporinum</i> | Foxtail barley | <i>Schinus molle</i> | Mexican pepper |
| <i>Hordeum vulgare</i> | Common barley | <i>Schinus terebinthifolius</i> | Brasilian pepper |
| <i>Lactuca serriola</i> | Compass plant | <i>Sisymbrium irio</i> | London rocket |
| <i>Lathyrus tangianus</i> | Tangier pea | <i>Trifolium hirtum</i> | Rose clover |
| <i>Limonium perezii</i> | Sea lavender | <i>Washington robusta</i> | Mexican fan palm |
| <i>Limonium sinuatum</i> | Sea lavender | <i>Vicia sativa</i> | Spring vetch |
| <i>Lobularia maritima</i> | Sweet alyssum | <i>Vulpia myuros varhirsuta</i> | Annual fescue |
| <i>Lolium multiflorum</i> | Italian rye | <i>Vulpia myuros var myuros</i> | Rattail fescue |

Appendix G: Exotic, Non-invasive Species

| <u>Scientific Name</u> | <u>Common Name</u> | <u>Genus species</u> | <u>Common Name</u> |
|---------------------------------|----------------------|------------------------------------|--------------------|
| <i>Amaranthus albus</i> | Tumbleweed | <i>Geranium carolinianum</i> | Geranium |
| <i>Anagallis arvensis</i> | Pimpernel | <i>Gnaphalium luteo-album</i> | White cudweed |
| <i>Apium graveolens</i> | Celery | <i>Koehreuteria species</i> | Koehreuteria |
| <i>Aptenia cordifolia</i> | Baby sun-rose | <i>Lamarckia aurea</i> | Goldentop |
| <i>Atriplex glauca</i> | Saltbush | <i>Lantana montevidensis</i> | Lantana |
| <i>Bidens pilosa</i> | Common beggar-ticks | <i>Lathyrus odoratus</i> | Sweet pea |
| <i>Capsella bursa-pastoris</i> | Shepherd's purse | <i>Lycium species</i> | Lycium |
| <i>Centranthus ruber</i> | Red valerian | <i>Lycopersicon esculentum</i> | Garden tomato |
| <i>Ceratonia siliqua</i> | Locust bean tree | <i>Malephora crocea</i> | Mesemb |
| <i>Chamaesyce maculata</i> | Spotted spurge | <i>Melaleuca species</i> | Melaleuca |
| <i>Chenopodium album</i> | Lamb's quarters | <i>Mesembryanthemum nodiflorum</i> | Iceplant |
| <i>Chenopodium ambrosioides</i> | Mexican tea | <i>Osteoapermu fruticosum</i> | African daisy |
| <i>Chenopodium murale</i> | Nettleleaf goosefoot | <i>Oxalis corniculata</i> | Woodsorrel |
| <i>Conyza canariensis</i> | Horseweed | <i>Paspalum dilatatum</i> | Dallis grass |
| <i>Coronilla valentina</i> | Coronilla | <i>Pinus halepensis</i> | Aleppo pine |
| <i>Cyperus involucratus</i> | Umbrella plant | <i>Plantago major</i> | Plantain |
| <i>Digitaria sanguinalis</i> | Hairy crabgrass | <i>Poa annua</i> | Bluegrass |
| <i>Echium fastuosum</i> | Pride of madeira | <i>Polygonum arenastrum</i> | Knotweed |
| <i>Erodium botrys</i> | Long-beaked filaree | <i>Senecio vulgaris</i> | Groundsel |
| <i>Euphorbia lathyris</i> | Gopher plant | <i>Silene gallica</i> | Common catchfly |
| <i>Euphorbia peplus</i> | Petty spurge | <i>Triticum aestivum</i> | Cultivated wheat |
| <i>Filago gallica</i> | Narrow-leaf filago | <i>Urtica urens</i> | Dwarf nettle |
| <i>Fraxinus uhdei</i> | Shamel ash | <i>Veronica anagallis-aquatica</i> | Water speedwell |
| <i>Gazania species</i> | Gazania | <i>Yucca species</i> | Spanish bayonet |

Euphorbia terracina Control Jan – Mar 2011



Site 11. Vicente Bluffs (In culvert)

Date: Jan 27 2011, Mar 28 2011

Amount of Plants: 175

Phenology: Sprouting

Control method: Sprayed with Roundup ProMax 2%



Site 9. Forrestal Nature Preserve- Pirate Trail Head

Date: Jan 27 2011

Amount of Plants: 15

Phenology: Sprouting

Control Method: Hand pulled and disposed off site



Site 24. San Ramon

Date: Feb 15 – 18 with California Conservation Corp, Feb. 24,

Amount of plants: >8,000, Over 2,000 lbs

Phenology: Flowering

Control Method: Hand Pulled and disposed off site, and Sprayed with Roundup Pro Max 2%



Site 7. Alta Vicente (phase 3)

Date: Mar 7 2011

Amount of plants: 1

Phenology: Flowering

Control Method: Hand Pulled and disposed off site



Site 16. Portuguese Bend at PV Drive South

Date: Mar 8 2011

Amount of plants: ~300

Phenology: Flowering and sprouting

Control Method: Sprayed with Roundup ProMax 2%



Site 15. Portuguese Bend at Peppertree Trail

Date: Mar 17 2011

Amount of plants: ~75

Phenology: Flowering and sprouting

Control Method: Sprayed with Roundup ProMax 2%



Site 17. Portuguese Bend (Ishibashi Farm Trail)

Date: Mar 17 2011

Amount of plants: ~500

Phenology: Flowering and sprouting

Control Method: Sprayed with Roundup ProMax 2%



Site 4. Agua Amarga

Date: Feb 3 2011, Mar 8 2011

Amount of Plants: ~75

Phenology: Sprouting

Control Method: Sprayed with Roundup ProMax 2%



Site 1. Abalone Cove at PV Dr south

Date: Mar 28 2011

Amount of plants: ~10

Phenology: Flowering and sprouting

Control Method: Sprayed with Roundup ProMax 2%



Site 21. Three Sisters

Date: Jan 31 2011, Mar 8 2011

Amount of plants: ~500

Phenology: Flowering and sprouting

Control Method: Sprayed with Roundup ProMax 2%



Site 20. Three Sisters (Barkentine)

Date: Jan 26 2011, Feb 24 2011,

Amount of plants: ~100

Phenology: flowering

Control method: Sprayed with Roundup ProMax2%



Site 10. Vicente Bluffs

Date: Jan 26 2011, Mar 8 2011, Mar 28 2011

Amount of Plants: ~100

Phenology: sprouting and flowering

Control method: Sprayed with Roundup ProMax 2%

Euphorbia terracina Control April 1 – August, 2011



Site 19. Portuguese Bend Sandbox area

Date: May 26, June 8,

Amount of Plants: 200 plants

Phenology: All stages

Control Method: Spot spray with Roundup Pro Max 2%



Site 18. Portuguese Bend Sandbox trail

Date: May 25

Amount of Plants: 200 plants

Phenology: Flowering and Seeding

Control Method: Spot spray with Roundup Pro Max 2%



Site 5. Alta Vicente Phase 1

Date: May 25, June 2,

Amount of Plants: 250 plants

Phenology: All stages

Control Method: Spot sprayed with Roundup Pro Max 2%



Site 6. Alta Vicente Phase 2

Date: May 25

Amount of Plants: 100 plants

Phenology: All stages

Control Method: Spot spray with Roundup Pro Max 2%





Site 3. Abalone Cove Olmstead Trail

Date: April 28, May 19, June 10

Amount of Plants: 15 then 150

Phenology: Flowering

Control Method: Hand Pulled and disposed of off-site. Spot spray with Roundup Pro max 2%



Site 11. Vicente Bluffs (In culvert)

Date: June 10

Amount of Plants: 125 plants

Phenology: Sprouting and Flowering

Control Method: Spot spray with Roundup Pro Max 2%



Site 2. Abalone Cove Canyon

Date: May 19, June 10

Amount of Plants: 1000 then 200 plants

Phenology: All stages

Control Method: Spot sprayed with Roundup Pro Max 2%. Hand weeded between natives and disposed of off-site



Site 17. Portuguese Bend at Ishibashi Farm Trail

Date: May 25, June 27

Amount of Plants: 350 then 200 plants

Phenology: Sprouting and Flowering

Control Method: Spot sprayed with Roundup Pro Max 2%



Site 15. Portuguese Bend at Peppertree Trail

Date: May 25, June 27

Amount of Plants: 80 then 169 plants

Phenology: Flowering

Control Method: Spot sprayed with Roundup Pro Max 2%



Site 16. Portuguese Bend at PV drive south

Date: May 26

Amount of Plants: 100 plants

Phenology: Flowering

Control Method: Spot spray with Roundup Pro Max 2%



Site 8. Forrestal at Forrestal Drive

Date: April 18

Amount of Plants: 25 plants

Phenology: Flowering

Control Method: Hand pulled and disposed of off-site



Site 9. Forrestal at Quarry Trail

Date: June 6,

Amount of Plants: 30 plants

Phenology: Sprouting

Control Method: Hand pulled and disposed of off-site





Site 10. Vicente Bluffs

Date: June 10

Amount of Plants: 200 plants

Phenology: All stages

Control Method: Spot spray with Roundup Pro Max 2%



Site 1. Abalone Cove at PV drive south

Date: May 19

Amount of Plants: 10 plants

Phenology: Sprouting and Flowering

Control Method: Hand pulled and disposed of off-site



Site 12. Portuguese Bend at Ishibashi trail

Date: June 27

Amount of Plants: 40

Phenology: Flowering

Control Method: Spot sprayed with Roundup Pro Max 2%



Site 14. Portuguese Bend at Kubota trail

Date: May 16, June 27,

Amount of Plants: 25 then 15

Phenology: Flowering

Control Method: Spot sprayed with Roundup Pro Max 2%



Site 13. Portuguese Bend NCCP site

Date: May 16, June 8, June 27

Amount of Plants: 100 then 25 plants

Phenology: Sprouting and Flowering

Control Method: Spot spray with Roundup Pro Max 2%



Site 24. San Ramon: 5 acres

Date: April 15, April 18, April 20, April 22, May 24, May 25, June 6,

Amount of Plants: 5 acres

Phenology: All stages

Control Method: Spot sprayed with Roundup Pro Max 2%

Other Invasives



Site 22. Agua Amarga: Lunada Canyon: *Arundo donax*

Date: July 21, Aug 1, Aug 13, Sept. 14, Nov 10

Amount of Plants: 1,600 square feet

Phenology: flowering

Control Method: Cut, and stump treatment (Roundup Pro Max 2%)



Site 23. Abalone Cove canyon: *Arundo donax*

Date: July 21, Aug. 13, Sept. 14

Amount of Plants: 100 square feet

Phenology: flowering

Control Method: Cut, and stump treatment (Roundup Pro Max 2%)

Appendix C

Research and Education Program

I INTRODUCTION

The Research and Education Program at the Palos Verdes Peninsula Land Conservancy (PVPLC) began in 2006 with a generous two-year grant from Alcoa Foundation and Alcoa Fastening Systems. The grant funded the Research, Education, and Community Involvement Program for the Environment (RECIPE), was renewed for two more years in 2008 and concluded in May 2010. Alcoa's support enabled PVPLC to develop a robust research program centered on improving our conservation efforts while extending learning opportunities within our community.

Since the conclusion of the Alcoa Grant, PVPLC has worked toward insuring continuity of the program. Identified needs include strengthening collaborative relationships with universities and organizations, and seeking new funding sources. It was equally important to continue integrating young students and researchers to maintain the spirit of RECIPE. In 2011, two grants provided dedicated funds for research: one from the Long Family Foundation for supporting educational research and one from the State of California's Department of Food and Agriculture for supporting the Three Sisters Bird Survey.

The Land Conservancy's research program is designed to engage students from elementary through university level to foster sound scientific education for youth, as well as provide research opportunities for academia. A tiered approach, accommodating various skill levels, provides the framework for the research program, and includes middle and high school students, university undergraduate students, graduate students, and professors, PVPLC staff, and community volunteers (Box 2).

University professors are crucial for the success of research, because they provide expertise and technical guidance, including managing several research projects. Land Conservancy staff provides access to the preserves as well as technical support to participants. Over 30 scientists participate in PVPLC's Science Advisory Panel which supports the research by providing their expertise as needed for research projects on the preserves. In 2011, the Science Advisory Panel participated in a "Notes from the Preserves", an event that allowed the public learn about the research taking place on the preserves (Box 1).

This report covers the Research and Education Program's activities via the major categories, starting with the successful Science Advisory Panel event:

- *Notes from the Preserves*
- *Research Education*
- *Community Researchers, and*
- *Applied Research.*

I. Science Advisory Panel



Dr. Philip Rundel, Distinguished Professor at UCLA, describes the research he and his students are conducting in Southern California native plant habitats, which includes preserves on the Palos Verdes Peninsula.

2. List of research projects currently ongoing in the preserves.

Research Managed by PVPLC

- *Three Sisters Bird Survey* – A bi-monthly survey to study the bird community's response to a 21-acre restoration effort within the Palos Verdes Nature Preserve.
- *Wild Animal Surveys* – High school and college students track coyote and fox use of the preserves and their diets.

Managed by University Researchers

- *Archeology at Abalone Cove* – CSU Fullerton students, under their professor's guidance, conduct a professional dig at the preserve for Native American artifacts.
- *Biomass of Encelia californica and Salvia leucophylla* – The third year for a project to develop a measure of plant material (biomass) contained within an acre of coastal sage scrub utilizing high school and university students.
- *Effects of grazing on habitat and non-native plants* – A long-term project initiated by a professor from CSU Dominguez Hills with the purpose of providing research experience for undergraduates.
- *Effects of Mycorrhizae* – A study on the effects of the addition of AM fungi (mycorrhizae) on native and non-native species germination in CSS by students from UCLA's Environmental Science Senior Practicum.
- *Genetic diversity of California crossosoma (Crossosoma californicum)* – A professor from the University of South Dakota investigating the genetic variation of the plants within the Palos Verdes Nature Preserve and comparing them to plants found on Santa Catalina and San Clemente Islands.
- *Geosciences Diversity Enhancement Program (GDEP)* – Led by CSU Long Beach geography and geology professors, this project seeks to increase the diversity of students in the disciplines of geography, anthropology, geology, and biology.
- *Kelvin Canyon Springs Monitoring* – Under guidance from retired USC Geologist Dr. Robert Douglas, high school students monitor the flow of the springs as part of the Abalone Cove Landslide Abatement District's efforts to slow the Abalone Cove landslide.
- *Multi-Agency Rocky Intertidal Network (MARINe)* – A long-term monitoring site was added to the nationally-run MARINe program, managed by a CSU Long Beach marine biology professor and his students.
- *Microclimate on the Preserves* – High school and college students participate in monitoring habitat temperature and humidity trends for different plant species.

2 NOTES FROM THE PRESERVES

The Conservancy hosted members of its Science Advisory Panel in a public forum discussion their research conducted in the preserves. Poster and demonstrations ranged from crawling critters collected at a restoration site, searching for birds, investigations of lemonade berry growth, soil studies, invasive species, wild animals, and more.

Highlighting the event was UCLA Distinguished Professor Dr. Philip Rundel's talk on "California Sage Scrub: Its Past, Present, and Potential Future", Dr. Robert Douglas, Chairman of the Abalone Cove Landslide Abatement District, "Rainfall, Dewatering Wells, and Creepy Landslides", CSULB's Dr. Gregory Holk "The Geochemical Hydrogeology of the Abalone Cove Landslide", and the Conservancy's Dr. Danielle Lefer "Improving Restoration through Research".

From the posters and lectures, all found that these varied disciplines combine to provide a better understanding of our preserves. Additionally, it was clear that continued investigations will help improve our knowledge along with providing many educational opportunities for students.

PVPLC High School Researchers

| CATEGORY | STUDENT | AWARD | PROJECT TITLE |
|-----------------------|-----------------------|---|---|
| Botany | Yurika Yoneda | First Place | Determining the biomass of <i>Eriogonum fasciculatum</i> |
| Botany | Jacqueline Lin | Honorable Mention | Biomass analysis of <i>Eriogonum cinereum</i> |
| Botany | Dawool Huh | Honorable Mention | How certain factors affect coastal sage scrubs |
| Earth & Space | Peter Smolke | First Place | The effects of wildlife on coyote and fox visitation to Portuguese Bend Preserve |
| Earth & Space | Akari Sunaga | Third Place and | The origin of the Kelvin Canyon Spring |
| | Lauren Nguyen | Association for Women Geoscientists Award | |
| Environmental Science | Christine Chen | Honorable Mention | Assessing <i>Polioptila californica</i> population in differing <i>Artemisia californica</i> habitats |
| Environmental Science | Tasneem Islam | Honorable Mention | Adaptability of native birds to local restoration sites |
| Environmental Science | Albert Liu | Honorable Mention | Cause of the influx of <i>Forficula auricularia</i> in Alta Vicente Reserve |

3 RESEARCH EDUCATION

High school and college students are important elements in PVPLC's field research. By participating in PVPLC's research program with professionals and university researchers, students obtain field and analytical skills in the natural science fields. Additionally, students increase their appreciation of nature while expanding their awareness of opportunities that the natural science fields have to offer. As a result, PVPLC students often win top honors in science fairs and are able to leverage their experience for gaining entrance into top universities, satisfying course credits, or obtaining paid internships (Boxes 3 and 4).

4 COMMUNITY RESEARCHERS

Volunteers are an important for PVPLC, not only helping with growing plants, habitat restoration, guiding walks, and special events, but also with science research and education. Our volunteers are terrific and travel from throughout the Peninsula and surrounding areas to help out.

The 5-year Three Sisters Bird Survey, conducted in conjunction with the Palos Verdes/South Bay Audubon Chapter, has been a highly successful effort. Starting in July 2008, volunteers have participated in bimonthly surveys



High school researcher Shreya Ramayya and Rachel Dokko collect plant samples for their research project investigating biomass within the habitat on the preserves under the direction of UCLA Research Dr. Rasoul Sharifi.



Volunteers for the bimonthly Three Sisters Bird Survey hike to an observation site in the restoration area. Although the plants have been in the ground for only two years, many birds are using the new habitat, including California gnatcatchers.

while gaining valuable and relevant experience for their education and future careers. Many students utilize this research for meeting classroom field requirements or obtaining course credit.

PVPLC's stewardship staff conducted a variety of surveys throughout the preserves for assessing habitat quality as well as documenting the progress of our restoration efforts (Box 6). Due to the plentiful winter rains in 2011, staff documented the presence south coast saltbush (*Atriplex pacifica*) and aphanisma (*Aphanisma blitoides*), two rare plants in the Palos Verdes Nature Preserve. Both plants are annuals, so finding them is difficult. Staff collected seeds from the plants for culture in the nursery and eventual out-planting in the preserves. Also, PVPLC staff conducted surveys of two endangered butterflies present on the Peninsula in 2011, the Palos Verdes blue butterfly and El Segundo blue butterfly. Additional information about these results can be found in Chapter **Stewardship**.

Vegetation Surveys

- Alta Vicente Reserve – On-going surveys on 10 acres of habitat restoration
- Defense Fuel Supply Point – Surveying habitat used by the Palos Verdes blue butterfly
- Palos Verdes Nature Preserve – Monitoring for special status plant species
- Portuguese Bend Reserve – A rapid vegetation assessment of the area burned in 2009 was surveyed to determine changes resulting from the fire.
- Three Sisters Reserve – Surveys on a 21-acre habitat restoration
- Upper Filiorum Reserve – CSULB's Environmental Science and Policy Capstone Project class conducted a multi-discipline survey for the course and for PVPLC

Endangered Butterfly Surveys

- Linden H. Chandler Preserve – Surveys were conducted for the Palos Verdes blue butterfly where progeny from the 2009 release were observed.
- Vicente Bluffs and Abalone Cove Reserves – Surveys were conducted for the El Segundo blue butterfly, including areas where PVPLC is actively improving the habitat for the butterfly.

designed to monitor the bird community's response to the Land Conservancy's 21-acre restoration effort at the site (Box 5). This project attracted funding to cover the research from the State in 2011. During the summer in 2011, following two years of restoration work, we found that California gnatcatchers began using the new habitat. Also, Western meadowlarks are frequently seen at the site where they were previously absent.

5 APPLIED RESEARCH

Activities conducted under the applied research umbrella support our on-going efforts to grow native plants, conduct habitat restoration, and stay on the forefront of restoration science. College students, serving as volunteer interns, are important participants in this research. They provide crucial support for the projects



Stewardship Associate Adrienne Bosler conducts a vegetation survey at the Alta Vicente Reserve to obtain data on the results of the restoration sites. These data are important for managing the restoration that will provide crucial habitat for California gnatcatchers, cactus wrens, and Palos Verdes blue butterflies.

Appendix D

Volunteer Program

I INTRODUCTION AND SUMMARY

1.1 Volunteer Programs

This Annual Report describes each of the individual programs included within the larger Volunteer Program that serviced the Palos Verdes Nature Preserve. Specific activities are detailed for the reporting period January 1, 2011 to December 31, 2011. The PVPLC continues to work to implement grants geared toward improving this program.

Since 1988, volunteers have played an essential role in fulfilling the Palos Verdes Peninsula Land Conservancy's (PVPLC) mission to preserve land and restore habitat for the education and enjoyment of all. PVPLC is a non-profit organization that relies heavily on the support of community involvement to perform many of the tasks necessary to manage the Nature Preserves. Volunteers donate thousands of hours each year to help with office assistance, event planning, community education, habitat restoration, trail maintenance, and much more. This report divides the various volunteer programs into two categories: Community Involvement Volunteers and Stewardship Volunteers.

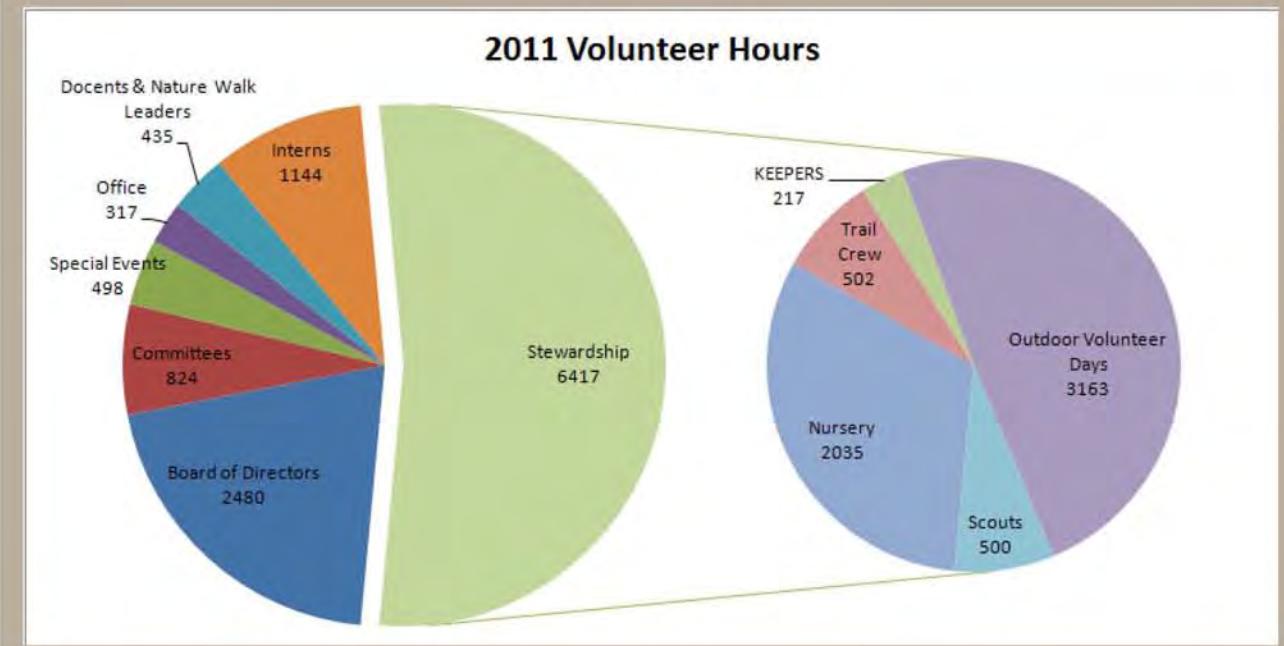
The first category, Community Involvement Volunteers, supports volunteer activities that focus on friend making, fundraising, and recommendations to staff on a variety of topics. This category is further divided into four sections which are detailed within the report:

- Board of Directors
- Committees and Advisory Boards
- Special Events and Office Assistance
- Education Docents and Nature Walk Leaders

The second category, Stewardship Volunteers, supports activities that are performed on the land to assist with management of the Preserves. In all, there are six programs within this category that are described in more detail in the Stewardship Volunteer section of this report. The backbone of the program is our regularly scheduled Saturday outdoor workdays that are open to participation by all and require no long-term commitment. Periodically, there are also individuals or groups that contact the PVPLC and arrange to complete stewardship projects outside of the normally scheduled outdoor workdays. Boy Scouts and Girls Scouts interested in obtaining their final awards are two such groups. There are also several Stewardship Volunteer opportunities that require long term commitments. The six programs are listed below:

- Outdoor Volunteer Workdays
- Team Leaders
- Habitat and Ecological Restoration Organization (HERO) Club
- Scout Awards
- Trail Crew
- Keeping an Extra Eye on the Preserve for Environmental Review and Stewardship (KEEPERS)

In 2011, volunteers provided a grand total of **12,115 hours** of support and service towards PVPLC programs (Table 1). According to the Independent Sector, volunteer time in California is valued at \$23.42 per hour (based on Dollar Value of a Volunteer Hour, by State: 2009, Independent Sector), thus generating a total of **\$283,733** of in-kind services. The amount of volunteer hours donated at each Reserve or for a specific volunteer category depends on the size of property or specific projects that transpired during the reporting period.

Table 1. Distribution of volunteer hours.

2 COMMUNITY INVOLVEMENT

2.1 Board of Directors

PVPLC is driven and supported by an eighteen-member volunteer board, which meets on a regular basis to strategize and direct the organization's mission. This year, the board contributed over 2400 hours in serving the Land Conservancy's mission.

2.2 Committees and Advisory Boards

The PVPLC maintains numerous committees and advisory boards for the following purposes:

- To provide review and recommendations regarding organizational plans and policies
- To provide assistance with the operations of the organization
- To provide community input for PVPLC activities
- To provide a training and evaluation ground for potential members of the Board of Directors

Committee volunteers donated a total of 824 hours, with many committees meeting on a quarterly basis. Hours for committee-involved board members are compiled with their board volunteer time. The committees that were active during the reporting period are listed below:

- Audit Committee
- Finance Committee
- Fundraising Committee
- Investment Committee
- Science Advisory Panel
- Special Events Committee(s)
- Governance Committee
- Executive Committee
- Education Committee

2.3 Special Events and Office Assistance Volunteers

The PVPLC relies on individual volunteers and organized groups, such as the National Charity League (NCL), Los Hermanos, and Assisteens, to assist PVPLC staff with all major fundraising and friend-raising events. We have built very strong and fulfilling relationships with these groups and strive to provide an environment that lets volunteers know they are indispensable and an integral part of our organization.

Fundraising and special events supported by committees and volunteers this year included the Edge of LA, Fall for White Point, and the Trump Wine and Beer Festival. Volunteers contributed 496 hours towards this effort.

In the office, volunteers handle routine tasks such as labeling newsletters, stuffing envelopes, assembling event materials, planning and preparation for special events, and much more. During the 2011 reporting year, office volunteers, many from the Palos Verdes Chapter of NCL, donated 317 hours of assistance.

2.4 Educational Programs

Volunteers assist with education-based programs to inform community members of all ages about natural spaces on the peninsula. Education is provided to the public through Third Grade Docents Program and monthly Nature Walks.

2.4.1 Third Grade Docents

The Third Grade Docents volunteered a total of 128 hours in 2011. Since the start of the program, the docents have served over 18,000 students. The docent group is comprised of a diverse group of retired professionals and active volunteers from all over the Peninsula with backgrounds range from law and engineering to nursing, chemistry and education. This team of dedicated people is trained by Third Grade Program Manager, John Nieto, who began running the program in 2000. He is directly responsible for the management and coordination of the entire program. While John Nieto and the docents are paid for their time in the classroom, they donate many additional hours to make the program a success.

In addition to learning the academic information required to give lessons in the classroom, docent's also volunteer extra time to developing techniques for the trail by attending various training hikes and observing other docents teaching the program.

Prior to the field trip, each docent visits his or her school's third grade classrooms and conducts four weekly lessons covering such topics as birds, invertebrates, geology, Tongva indigenous culture, reptiles, mammals and plants. One of the main goals embedded in this standards-based curriculum is to help students understand the difference between native and non-native species present in the coastal sage scrub community of the Palos Verdes Peninsula. The docents meet yearly at the end of the semester to discuss accomplishments of the year and possible new activities for the upcoming school year.

2.4.2 Nature Walks

Nature Walk Leaders donated a total of 307 hours in 2011. Former PVPLC Board of Directors member Anke Raue coordinates this group of dedicated volunteers and each prospective walk leader must have a high level of knowledge the local ecosystem, particularly the native and non-native plants found on the Peninsula.

Leaders must go through extensive training and be willing to research and learn about local history, geology, flora and fauna. Continued research and exploration serves to add to a walk leader's knowledge base, preparing them to give accurate and in-depth presentations to the public.

Walks are held all over the Peninsula, from the edge of the coast to deep within the canyons. Each leader designs his or her presentation to include special attributes and stories particular to a site. Nature walks occur once a month throughout the year, featuring a different location every time (Appendix I).

3 STEWARDSHIP VOLUNTEERS

Stewardship volunteers play an integral part in helping PVPLC staff exceed our goals for restoring all managed open spaces. Outdoor volunteer workdays provide an opportunity for public volunteers to contribute to habitat and trail restoration efforts lead by Team Leaders, the Trail Crew class builds skills for volunteers to maintain the trail system, and KEEPERS help "keep an eye" on the Reserves on a monthly basis. Scout projects, local HERO Club chapters and nursery volunteers are also Stewardship volunteers that support Conservancy restoration efforts.

Summary of accomplishments in 2011:

- 6,417 hours of outdoor stewardship volunteer time in the Palos Verdes Nature Preserve
- \$15,000 REI grant to support volunteer programs and trails development
- Facilitated the volunteering effort of several organizations and corporate give-back events

3.1 Outdoor Volunteer Workdays

The PVPLC holds outdoor volunteer days nearly every Saturday of the year, held from 9am-12pm, excluding holiday weekends and during the month of August. The focus of these events is to restore native habitat, maintain the trail system, and do general clean-ups. The intended demographic is focused on individuals of all ages, organized groups such as Boy Scouts and the National Charity League, and employee volunteer days for corporations. All age groups are encouraged to participate. There is a particular focus on getting young people involved as a mechanism to ensure education and stewardship on the Preserves in perpetuity. We work with local schools and colleges to have teachers bring groups of students or give incentives such as extra credit and service-learning hours for students who participate on the Saturday workdays.

A detailed account of workdays found below. Events are listed chronologically by Preserve with the Palos Verdes Nature Preserve (PVNP) further separated by Reserve.

3.1.1 Palos Verdes Nature Preserve (PVNP)

Abalone Cove Reserve

July 16 – 203 Boeing volunteers removed trash along the shoreline as a part of the company's annual day of service with support from the LA Conservation Corps.

September 17 – 253 volunteers removed marine debris as a part of the annual Coastal Cleanup Day facilitated by the Los Serenos and City of Rancho Palos Verdes.

Agua Amarga Reserve

October 22 – Seventeen volunteers used loppers to cut fennel from the canyon.

Alta Vicente Reserve

April 2 – 22 volunteers planted 40 coastal sage scrub plants and weeded around fledgling seedlings.

May 7 – 29 volunteers weeded non-native plants around establishing native species.

June 25 – Thirteen volunteers continued to weed out invasive species in the Phase I restoration area.

Fishing Access

March 26 – 33 volunteers removed 70 bags of trash from along the shoreline and removed weeds from a recently-planted area on top of the bluffs.

Portuguese Bend Reserve

The volunteer efforts at Portuguese Bend in 2011 were very focused on removing fennel (*Foeniculum vulgare*) along the north-facing side of the Eagle's Nest hill around Ailor Trail along Burma Road (Figure A). Approximately one acre of fennel was cleared. Herein is a list of the events and number of participants that contributed to this outstanding effort.

January 8 – 30 volunteers

February 12 – 67 volunteers

March 5 – 25 volunteers

March 12 – 34 volunteers

April 16 – 39 volunteers including employees from the So Cal Gas Company

October 29 – 63 volunteers

November 19 – 53 volunteers

December 12 – 55 volunteers

Three Sisters Reserve

January 22 – Eleven volunteers removed weeds from around natives previously planted.

June 11 – six volunteers weeded around native plants.

October 15 – Nineteen volunteers installed about 100 coastal sage scrub plants.

3.1.2 Native Plant Nursery

Activities in the Native Plant Nursery include transplanting seedlings from flats into individual containers, removing weeds from the containers. Over **3200 plants** were transplanted by volunteers this year. On rare occasion, groups help maintain the shade structure, build plant benches and repair the weed barrier cloth. The following dates detail the nursery's volunteer effort this year:

January 29 – 26 volunteers transplanted 126 *Eriogonum fasciculatum* and 504 *Artemisia californica* seedlings.

Figure A



Above: Removing the densely-grown fennel stalks revealed many hidden native shrubs (January 2011).

Below: Overview of the affectionately-termed “fennel forest” in December 2011 – one year after beginning the irradiation.

March 19 – 29 volunteers transplanted 230 *A. californica* seedlings

April 9 – 22 volunteers transplanted 200 *Nassella spp.* and 200 *Rhus integrifolia* seedlings.

May 21 – 26 volunteers sowed seeds in 306 *Nassella pulchra* and 400 *Eriogonum parvifolium* seeds into containers.

June 18 – Fifteen volunteers sowed 400 *Isomeris arborea* seeds into containers and transplanted 80 mixed native species.

September 3 – Ten volunteers transplanted 328 *E. parvifolium* and 139 *Isocoma menziesii* seedlings as well as removed weeds from other plant containers.

October 8 – Eighteen volunteers transplanted seedlings and filled pots with soil for future seeding.

November 5 – 22 volunteers transplanted 280 *Rhus integrifolia* and seeded 200 containers with *I. arborea*.

December 10 – 21 volunteers transplanted 425 *Encelia californica* seedlings

3.2 Team Leader Program

The Team Leader program was started in 2007 in response to the growing number of volunteers that were attending the Outdoor Volunteer Workdays. Team Leaders are volunteers, sixteen years or older, who assist in supervising the Saturday outdoor volunteer activities. They ensure that volunteers have adequate instruction and the tools necessary to complete the task. They also assist in educating the public about the PVPLC.

The program requires that interested volunteers go through an application and interview process. Candidates then attend a half-day weekend workshop where they learn the skills necessary to motivate and supervise volunteers during Saturday Outdoor Volunteer Days. Training involves practicing leadership skills and communicating restoration techniques. Team Leaders commit to working at least four volunteer days within one year. The goal of the PVPLC is to hold two Team Leader workshops each year during the spring and train a minimum of six new Team Leaders at each one. In 2011, only one workshop was held at White Point Nature Reserve in October which trained 20 new Team Leaders (February training was rained out).

The Team Leader Program has helped develop leadership skills in participants and has greatly contributed to the success of our Outdoor Volunteer Workdays. The quality of work from regular volunteers has increased with the guidance of Team Leaders. In addition to local adult participants, many of the Team Leaders attend local high schools and universities. During the reporting period, the program has allowed these students to build leadership skills that they will find useful in their future.

Figure C



Team Leaders like these from the Peninsula High School HERO Club provide necessary oversight and guidance during Outdoor Volunteer Days.

3.3 Habitat and Ecological Restoration Organization (HERO) Club

The HERO Club participates in about eight Outdoor Volunteer Day events a year, striving to host one event every month. The HERO Club coordinators also participate in the Team Leader training program in an effort to learn more about habitat restoration and leadership to help facilitate the Outdoor Volunteer Days.

The HERO Club started at local high schools – Peninsula High School and the Palos Verdes High School – in September 2007 when a group of students partnered with the PVPLC to help the environment through volunteering and help the PVPLC in their mission to preserve land and restore habitat. The club coordinates with PVPLC and their Outdoor Volunteer Workday schedule to recruit student volunteers during several Saturday HERO Club workday events a year. Their efforts have received much community support and praise.

3.4 Scout Projects

The PVPLC encourages Boy Scouts and Girl Scouts who are looking for projects to complete their final awards, Eagle Awards for Boy Scouts and Gold Awards for Girl Scouts, by providing them with opportunities to complete their projects on preserves the PVPLC manages. This collaboration is beneficial to the scout groups, the PVPLC, and the public that uses the preserves. Scouts work under the mentorship of one of the PVPLC staff to complete their projects and are steered toward objectives that meet the PVPLC stewardship goals. In 2011, scout projects have accumulated over 700 hours of volunteer service and are detailed below:

Aric Belsito – Aric organized his troop to plant coastal sage scrub species at Three Sisters Reserve

Nicholas Bishop – Nicholas worked with his troop to clear Acacia and other vegetation overgrowing the Nike Trail at Alta Vicente Reserve.

Sam Pond – Sam worked with his troop to repaint the inside of the nursery's office bungalow.

Kyle Salzman – Kyle constructed new plant benches for the nursery as well as rebuilt the entry gates for Agua Amarga Reserve (Figure D).

Jack Dulzo – Jack's troop worked to construct new plant benches at the native plant nursery and filled pots with soil to prepare them for seeds.

Figure D

Scout project support PVPLC's land stewardship through focus projects which often involve construction.



Kyle Salzman (fourth from the right) and volunteers stand behind the newly-reconstructed entry gate to Agua Amarga Reserve on Posey Way.

3.5 Trail Crew Volunteer Program

This year, the volunteer Trail Crew donated a contributed a total of 502 hours to maintaining the Preserve's trail system. The Volunteer Trail Crew class offered is based on the Basic Trail Maintenance class developed by Frank Padilla, Jr. (retired California State Parks Supervisor), and Kurt Loheit. Originally started in 1992, the class focused on both volunteer and agency skill building. Adopted by the Los Angeles District of California

State Parks and later the Southern California Trails Coalition, it became the first step in advanced classes for crew leader training and design and construction classes, allowing a structured path for participants to build skills associated with trails from basic maintenance to highly advanced techniques. The class is a combination of classroom and hands-on training to familiarize the participants in all aspects of trail maintenance. The course emphasizes safety, assessments, basic maintenance skills, water control, erosion sources, terminology, proper tool use, basic survey skills, resource considerations, and user experience and maintenance value. Volunteers who demonstrate proficiency in each learned skill and fulfill a yearly indoctrination will maintain status as a qualified Trail Crew member.

Participants must be at least 18 years old and must first take the introductory course. The 50-hour course can be taken at the participant's own pace and it is estimated to take about a year to complete. There are scheduled Trail Crew Skills Classes that coordinate with the trail instructor's availability and the PVPLC Outdoor Volunteer Workday schedule.

To date, seven volunteers have completed the training program about a dozen other participants are close to completing their 50 hours of required training and could be expected to take the yearly indoctrination in 2012.

Table 3. Trail Crew training classes

| Date | # Volunteer Hours | Location | Project/Skill Learned |
|-----------|-------------------|-----------------|--|
| January | 58 | White Point | Introductory Class |
| February | 39 | Forrestal | Trail assessment skills |
| March | 35 | Portuguese Bend | Tread skills |
| April | 42 | Forrestal | Tread skills |
| May | 36 | Upper Filiorum | Trail clearing and assessment |
| June | 40 | White Point | Introductory Class |
| July | 57 | Forrestal | Erosion mitigation – grade dips |
| August | 32 | Portuguese Bend | Trail assessment |
| September | 20 | Abalone Cove | Tread skills – Sacred Cove Trail |
| October | 28 | White Point | Introductory Class |
| November | 44 | Forrestal | Tread skills |
| December | 39 | Portuguese Bend | Trail psychology and spur closure on Ishibashi Trail |

3.6 Keeping an Extra Eye on the Preserves Stewardship (KEEPERS) Program

The KEEPERS program was developed in April of 2007 to help staff monitor the nearly 1600 acres of land that is managed by the PVPLC. Keepers are volunteers who monitor an area within a preserve and fill out monthly property review forms. These forms are reviewed by staff and consolidated into a monthly report that is sent to all of the current Keepers.

The property review form is a one page form that requires some knowledge of basic trail maintenance and plant identification. The skills needed to fill out these forms are provided in a training session with a PVPLC staff person and are continually developed with an ongoing relationship between the volunteer, the

Table 4. KEEPERS for each Reserve

| Reserve | # of Keepers |
|-------------------------|--------------|
| Abalone Cove Reserve | 4 |
| Agua Amarga Reserve | 4 |
| Alta Vicente Reserve | 1 |
| Forrestal Reserve | 2 |
| Portuguese Bend Reserve | 4 |
| Three Sisters Reserve | 1 |
| Vicente Bluffs Reserve | 1 |

Number of Keepers assigned to each property for monthly monitoring.

PVPLC staff, and regular visits to the preserve being monitored. This volunteer opportunity is a one year commitment (a total of 12 visits) to the chosen preserve area. The person or group that accepts this responsibility also helps, if necessary, to train the following year's replacement volunteer Keeper. Currently, there is no term limit.

Some of the properties managed by the PVPLC are large enough to require more than one Keeper to monitor them. We will be looking for two to four Keepers to monitor the newly-acquired Upper Filiorum Reserve beginning in spring or fall of 2011.

4 GRANTS

In August 2011, REI awarded the PVPLC with a \$15,000 grant to facilitate the implementation of a Restoration Naturalist to independently lead the Saturday Outdoor Volunteer Days, which provided staff more flexibility and time to support other programs including the Trail Crew and Team Leader programs. PVPLC also partnered with PV/South Bay Audubon in a \$35,000 TogetherGreen Innovation grant to enhance the Audubon YES (Youth Environmental Service) and Team Leaders programs.

5 FUTURE PLANS

The past year has focused on improving the existing volunteer programs so they operate smoothly and sustainably. Further improvements can be made in retaining, focusing and motivating Team Leaders of all ages and so future recruitment may be focused toward environmentally-minded college students and active community residents. Additionally, the same goals can be applied towards the Trail Crew program's capacity to recruit new members and motivate graduated volunteers to develop and execute trail projects independently. We will continue to pursue grant opportunities to help develop and sustain all volunteer programs.

6 APPENDIX

**Malaga Cove****January 8, 9-11 am**

Walk the trail from the bluffs below Malaga Cove down to the shore at RAT Beach (Right After Torrance). View the spectacular landscape along the way including the historic Olmstead House. Moderate. PVE

Forrestal**April 9, 9-11 am**

This 155-acre Preserve offers some of the best wildflowers in the spring. See geological formations that form dramatic cliffs, including faults, folds, sedimentary bedding and igneous intrusions. Moderate to strenuous. RPV

Alta Vicente**July 9, 4-6 pm**

Walk the former Nike missile site from RPV City Hall to preserves below being actively restored by the Conservancy. With luck, you might hear and see California gnatcatchers and Cactus wrens in their native habitat. Moderate. RPV

Frascati Canyon - NEW!**October 8, 9-11 am**

Explore this beautiful canyon, one of three on the east side of the Peninsula, overlooking the harbor with some steep trails. Moderate to strenuous. RPV

Madrona Marsh**January 14, 2012, 9-11 am**

Visit an oasis for birds and other wildlife in the City of Torrance. This former oil field is now an easily accessible ecological jewel. Easy. TOR

**White Point
Ranger Walks****WHITE POINT NATURE
EDUCATION CENTER & PRESERVE**

1600 W Paseo Del Mar
San Pedro, CA 90731

Tel: (310) 561-0917

Hours: Wed, Sat & Sun 10 am - 4pm

Ranger Walks: Every Saturday except
holidays 10 am-12 noon (Free - provided by
City of Los Angeles)

Bluff Cove**February 12, 4-6 pm**

This wide open cove offers shoreline hiking down to a rocky beach and magnificent tide pools. A popular spot for surfers. Moderate. PVE

White Point**May 14, 9-11 am**

Enjoy the trails at this Preserve located across from Royal Palms Beach in San Pedro. Walk from the Nature Center to the historic military gun emplacements above to view spectacular ocean vistas. Moderate. LA

Lunada Canyon**August 13, 4-6 pm**

Walk the trail in this quiet neighborhood canyon in the Agua Amarga Reserve. A gift from the Zuckerman Family, this is one of the first lands owned by the Conservancy. Moderate. RPV

Sacred Cove**November 12, 3-5 pm**

Situated between Portuguese Point and Inspiration Point, this small cove features wonderful rock formations edged with tide pools and a channel into a sea cave. Strenuous. RPV

George F Canyon Walks**GEORGE F CANYON NATURE CENTER**

27305 Palos Verdes Drive East
Rolling Hills Estates, CA 90274

Tel: (310) 547-0862

Hours: Friday: 1- 4 pm; Sat & Sun 10 am - 4 pm

First Saturday Bird Walks: 9 -11 am (Binoculars provided; slow, easy and quiet walk - Free)

First Saturday Walks: Guided walks through the canyon: 1-3 pm (\$3 person)

Full Moon Night Hike: Friday or Saturdays on or near a full-moon. Must be age 9 and up (\$10 person. Please call for exact dates and times.)

The Land Conservancy is a nonprofit 501(c)(3) organization dedicated to open space preservation and habitat restoration throughout the Peninsula.

Where indicated, walks are co-sponsored by Palos Verdes Estates (PVE), Rancho Palos Verdes (RPV), Rolling Hills Estates (RHE), City of Los Angeles (LA), or Torrance (TOR).

PALOS VERDES PENINSULA LAND CONSERVANCY
PO Box 3427, Palos Verdes Peninsula, CA 90274 Tel: (310) 541-7613
Web: WWW.PVPLC.ORG



Palos Verdes Peninsula Land Conservancy 2011 NATURE WALKS

| January | | | | February | | | | March | | | | April | | | | | | | | | | |
|---------|----|----|----|----------|----|----|----|-------|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|
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Directions & Parking



Come enjoy year-round outdoor walks for families, groups and individuals. Led by volunteer and staff naturalists, historians and geologists, all walks are family-oriented, although some are strenuous and most are on dirt trails.

Wear walking shoes with good traction and sun protection. Bring water. In case of heavy rain, walks are cancelled - not rescheduled. No reservations required unless indicated. For more info call: (310) 541-7613 or go to: www.pvplc.org

George F Canyon (GFC) - First Saturdays

Bird Walks at 9 am and Canyon Walks at 1pm. Parking at George F Canyon Nature Center 27305 Palos Verdes Dr East, Rolling Hills Estates.

GFC Night Hikes - Times vary with full moon. Call for time and to RSVP. Parking - see above.

Nature Walks - Second Saturdays

Jan 8th, 9 am - Malaga Cove - On Palos Verdes Dr West just past Malaga Cove Plaza turn onto Via Almar toward ocean, right on Via Arroyo, then right on Paseo del Mar and park.

Feb 12th, 4 pm - Bluff Cove - As above. At Paseo del Mar turn left and park along the road about 1/2 mile beyond the Neighborhood Church.

Mar 12th, 9 am - Defense Fuel Supply Point 171 N Gaffey Street, south of Anaheim St. Enter the gates at security checkpoint. Reservations required.

Apr 9th, 9 am - Forrestal - Park at Ladera Linda Community Center - 32201 Forrestal Dr in RPV, or along Forrestal Dr. Meet near gate.

May 14th, 9 am - White Point - At southern end of Western Ave turn left onto Paseo del Mar and drive 1/2 mile to enter gate on left and park.

Jun 11th, 9 am - Portuguese Bend - Park along the street at the south end of Crenshaw Blvd in RPV. Meet at gate on dirt road.

Jul 9th, 4 pm - Alta Vicente - Park at Rancho Palos Verdes City Hall - 30940 Hawthorne Blvd.

Aug 13th, 4 pm - Lunada Canyon - On Hawthorne turn west onto Verde Ridge Rd, right on El Rodeo, left on King Harbor Rd. Park on street and meet near Posey Way.

Sep 10th, 4 pm - Portuguese Bend Landslide Enter gated parking area on Palos Verdes Dr South, halfway (1/4 mile) between Peppertree and Schooner Lanes on uphill side.

Oct 8th, 9 am - Frascati Canyon - Park at Miraleste Kindergarten - 6245 Via Canada. Meet at Palos Verdes Dr East and Picardie.

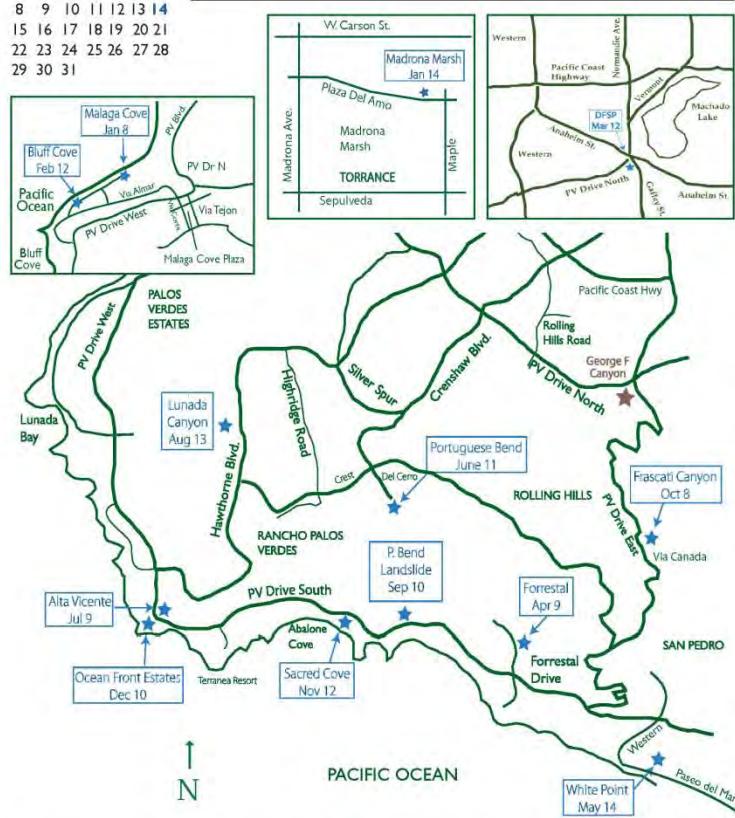
Nov 12th, 3 pm - Sacred Cove - Abalone Cove Shoreline Park - 5970 Palos Verdes Dr South across from Wayfarers Chapel. Parking fee waived.

Dec 10th, 9 am - Ocean Front Estate - Park near lighthouse at Point Vicente Interpretive Center 31501 Palos Verdes Dr West.

Jan 14th, 9 am - Madrona Marsh - Meet in parking lot of Nature Center - 3201 Plaza del Amo in Torrance, between Madrona and Maple St.

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Color key: GFC Walks Nature Walks GFC Night Hikes



PALOS VERDES PENINSULA LAND CONSERVANCY PO Box 3427, Palos Verdes Peninsula, CA 90274 Tel: (310) 541-7613 Web: www.pvplc.org

Winter 2011



OUTDOOR VOLUNTEER DAYS

Are you interested in other volunteer opportunities?

Visit our website at www.pvplc.org for more information.



Reservations always appreciated but required for Nursery days.

Contact Jill Wittman (310) 541-7613 x201
or jwittman@pvplc.org to sign up!

All events are from 9am-12pm unless otherwise specified. Workdays cancelled in event of rain.

Closed toes shoes are required. Long pants are also required for trail work events.

Help support our conservation effort by bringing your own water to reduce waste during the event.

January 8th - Help with habitat restoration and weeding at the Portuguese Bend Reserve.

January 17th - (Monday) Celebrate Martin Luther King, Jr. Day of Service with us at White Point.

January 22nd - Contribute to the grassland restoration at Three Sisters by fighting weeds.

January 29th - Transplant native seedlings and improve PV blue butterfly habitat at our Nursery.

February 5th - Team Leader Workshop (9am-12pm at the Nursery) Contact abosler@pvplc.org to get involved.

February 12th - Help fight the weed invasion at Portuguese Bend Reserve.

February 19th - Combat weeds at the Alta Vicente restoration site.

February 26th - Help restore Three Sisters by planting natives.

March 5th - Become a weed warrior and trail blazer at the first-ever Upper Filiorum Reserve event!

March 12th - Help improve habitat by fighting weeds at Portuguese Bend Preserve.

March 19th - Help transplant seedlings at the Native Plant Nursery.

March 26th - Beautify Vicente Bluffs at Fishing Access by removing marine debris and invasive plants

Schedule subject to change. Please visit our website at www.pvplc.org for updates.

Thank you to REI for your support with our Stewardship Volunteer Programs



Last updated (2/07/2011)

Spring 2011



OUTDOOR VOLUNTEER DAYS

Reservations always appreciated but required for Nursery days.

Contact Jill Wittman to sign up!

(310) 541-7613 x201 or jwittman@pvplc.org

All events are from 9am-12pm unless otherwise specified. Workdays cancelled in event of rain.

Closed toes shoes are required. Long pants are also required for trail work events.

Help support our conservation effort by bringing your own water to reduce waste during the event.

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| April 2 nd | - Help with the Alta Vicente Reserve restoration by combating weeds. |
| April 9 th | - The Native Plant Nursery is in need of transplanting seedlings and weeding containers. |
| April 16 th | - Weeds are coming up quickly. Help us remove them at Portuguese Bend Reserve. |
| April 23 rd | - EARTH DAY Celebration at White Point. Volunteering, guided hikes and crafts galore! |
| April 30 th | - no volunteer event |

| | |
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| May 7 th | - Help fight the weed invasion at Alta Vicente Reserve. |
| May 14 th | - BIG SUNDAY at White Point. Participate in LA's day of service through habitat restoration. |
| May 21 st | - Help us transplant seedlings and weed plant containers at the Native Plant Nursery. |
| May 28 th | - no volunteer event in honor of the Memorial Day weekend. |

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| June 4 th | - NATIONAL TRAILS DAY at Portuguese Bend Reserve. Help improve trail public trail access. |
| June 11 th | - Help the restoration efforts at Three Sisters Reserve by removing invasive plants. |
| June 18 th | - Help us transplant seedlings and weed plant containers at the Native Plant Nursery. |
| June 25 th | - Help fight the weed invasion at Alta Vicente Reserve. |

There will not be outdoor volunteer days in July and August due to heat concerns.

Schedule subject to change. Are you interested in other volunteer opportunities? Visit our website at www.pvplc.org for more information.

Thank you to REI for your support with our Stewardship Volunteer Programs



Last updated 5/08/2011



Palos Verdes Peninsula Land Conservancy Volunteer Workdays

Preserving land and restoring habitat for the education and enjoyment of all

Native Plant Nursery September 3, 9-12 pm

The Nursery is in need of transplanting seedlings and weed plant containers. Reservations required.

White Point Nature Preserve September 24, 9-12 pm

NATIONAL PUBLIC LANDS DAY! Sponsors Toyota and REI will host volunteers of all ages to plant native habitat.

Three Sisters Reserve October 15, 9-12 pm

Plant natives for rare cactus wren and gnatcatcher bird habitat.

Nature Plant Nursery November 5, 9-12 pm

Help us transplant seedlings and weed plant containers. Reservations required.

White Point Nature Preserve December 3, 9-12 pm

Plant natives and beautify the demonstration garden surrounding the Nature Education Center.

Due to holidays, there are no volunteer days on November 26th, December 24th and 31st.

Trail Crew Introductory Class

WHITE POINT NATURE PRESERVE
1600 W. Paseo Del Mar
San Pedro, CA 90731
Tel: (310) 561-0917

Saturday, October 15, 9 am - 1 pm

Join the Trail Crew for morning field practice in trail assessment and repair techniques. The Intro Class will give an overview to the program. Snacks provided. RSVP to Adrienne Bostler at: abostler@pvplc.org.

White Point Nature Preserve September 10, 9-12 pm

Plant natives and eradicate invasive plants from the demonstration garden surrounding the Nature Education Center.

Team Leader Training Workshop October 1, 9-1 pm

Applications available on our website at: www.PVPLC.ORG by September 15th.

Agua Amarga Reserve October 22, 9-12 pm

Help remove invasive plants at the restoration site.

Linden H Chandler Reserve November 12, 9-12 pm

Plant natives to help with restoration efforts.

Nature Plant Nursery December 10, 9-12 pm

Help transplant seedlings and weed plant containers. Reservations required.

Abalone Cove Reserve September 17, 9-12 pm

COASTAL CLEAN-UP DAY! Collect trash in partnership with the City of RPV and Los Seranos de Pt. Vicente.

Native Plant Nursery October 8, 9-12 pm

Help us transplant seedlings and weed plant containers. Reservations required.

Portuguese Bend Reserve October 29, 9-12 pm

Contribute to habitat restoration by planting natives.

Portuguese Bend Reserve November 19, 9-12 pm

Help the restoration efforts by planting natives.

George F Canyon Nature Preserve December 17, 9-12 pm

Help enhance the demonstration garden with planting.

Team Leader Training Workshop

WHITE POINT NATURE PRESERVE

1600 W. Paseo del Mar
San Pedro, CA 90731
Tel: (310) 561-0917
Saturday, October 1, 9am - 1pm

Take your volunteering to the next level and become a Team Leader. This workshop will train you how to lead volunteers in the restoration of habitat critical to our local wildlife on volunteer days. Lunch and fun are included! All current Team Leaders are welcome to attend. Applications available on www.PVPLC.ORG are due September 15th.

Schedule is subject to change. Cancelled in event of rain. Closed toe shoes are required. Long pants suggested. Help support our conservation effort by bringing your own water to reduce waste during the event.

The Conservancy is a nonprofit 501(c)(3) organization dedicated to open space preservation and habitat restoration throughout the Peninsula.

Volunteer Workdays
Sponsors:



PALOS VERDES PENINSULA LAND CONSERVANCY PO Box 3427, Palos Verdes Peninsula, CA 90274 Tel: (310) 541-7613 Web: www.PVPLC.ORG

TEAM LEADER

Volunteer Program

TRAINING WORKSHOP on October 1st from 9am-12pm

**Help the Palos Verdes Peninsula Land Conservancy
lead volunteers during outdoor workdays.**



**Learn skills associated with habitat restoration,
native plant propagation and trail maintenance.**

- Some experience in outdoor volunteering or restoration is desired
- You must be at least 16 years old to participate
- You must be committed to help at 4 volunteer days during the year ahead
- Opportunity to earn service-learning hours
- Lunch and tee-shirts will be provided during the workshop

Applications found on www.pvplc.org are due by September 15th.

Submit them to Adrienne Bosler at abosler@pvplc.org.

Directions and other details will be provided if accepted.

Thanks to REI for supporting our
Stewardship Volunteer Program.





Palos Verdes Peninsula Land Conservancy presents

Volunteer Trail Crew Training

Schedule of Classes available through May 2011:

- January 8th @ White Point Education Center, 9pm-1pm – Intro Class
- February 12th @ Forrestal, 9pm-12pm – Trail Assessment
- March 12th @ Portuguese Bend, 9am-3pm – Alignment Skills
- April 9th @ Forrestal, 9am-12pm – Tread Skills
- May 14th @ Upper Filiorum, 9am-12pm – Rock Work Skills



This is a free program for individuals interested in learning about and conducting volunteer trail maintenance in the Palos Verdes Peninsula Land Conservancy's preserve system.

The training program encompasses 50 hours of classroom learning and field experience lead by trail guru, Kurt Loheit, designed to develop the skills necessary to perform routine trail maintenance. Completion of this program is a requirement for volunteers who wish to continue further in becoming a qualified volunteer trail maintenance crew leader with minimal or no supervision.

Topics covered over the course of this program include:

- The need for safe trails
- Resource protection
- Assessments
- Tools
- Slough and berm
- Grade dips
- Brushing and pruning
- Switchbacks
- Trail safety
- Terminology
- Basic trail maintenance:
- Water bars
- Outsloping
- Rock work
- Retaining structures

Individuals may choose to participate in any of the specific skill building exercises, however to qualify as an approved trail maintenance volunteer all skills must be completed and demonstrated after acquiring 50 hours of training.

Contact Adrienne Bosler at abosler@pvpic.org or (310) 541-7613 to sign up!



Palos Verdes Peninsula Land Conservancy presents

Volunteer Trail Crew Training

Schedule of Classes available through December 2011:

- June 11 @ White Point Nature Center 9am-1pm – **Intro Class**
- July 9 @ Forrestal 9am-12pm
- August 13 @ Portuguese Bend 9am-12pm
- September 10 @ Abalone Cove 9am-12pm
- October 15 @ White Point Nature Center 9am-1pm – **Intro Class**
- November 12 @ Forrestal 9am-12pm
- December 10 @ Portuguese Bend 9am-12pm



This is a free program for individuals interested in learning about and conducting volunteer trail maintenance in the Palos Verdes Peninsula Land Conservancy's preserve system.

The training program encompasses 50 hours of classroom learning and field experience lead by trail guru, Kurt Loheit, designed to develop the skills necessary to perform routine trail maintenance. Completion of this program is a requirement for volunteers who wish to continue further in becoming a qualified volunteer trail maintenance crew leader with minimal or no supervision.

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- Slough and berm
- Grade dips
- Brushing and pruning
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- Trail safety
- Terminology
- Basic trail maintenance:
- Water bars
- Outsloping
- Rock work
- Retaining structures

Individuals may choose to participate in any of the specific skill building exercises, however to qualify as an approved trail maintenance volunteer all skills must be completed and demonstrated after acquiring 50 hours of training.

Contact Adrienne Bosler at abosler@pvplc.org or (310) 541-7613 to sign up!

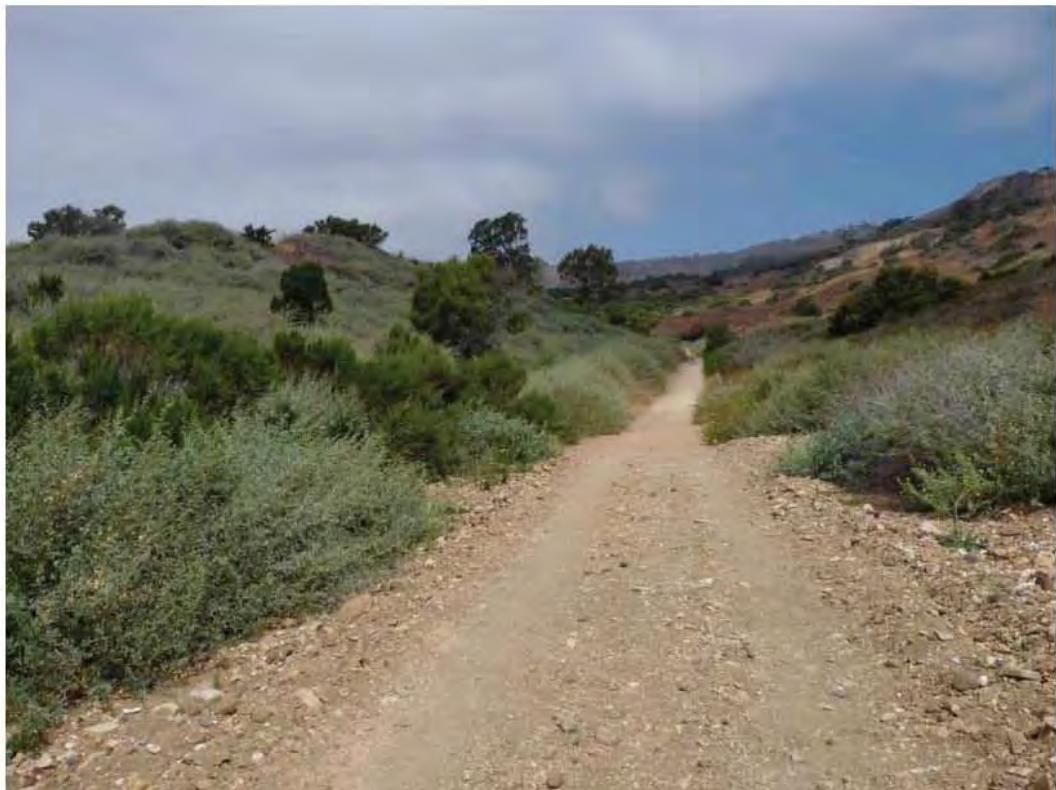
APPENDIX E: Future Trails Project List (2012)

The following is a list of trail projects based on priority and funding opportunities. This list is intended to outline potential projects but may be amended. Projects not completed will carry over to the following year. In addition to the list below, smaller-scale projects may be accomplished by the Volunteer Trail Crew or Scout projects on an as-needed basis.

| Reserve Name | Trail Name | Project Type | Priority |
|---------------------|---------------------------|--|----------|
| Abalone Cove | Sacred Cove (to beach) | Erosion repair | Low |
| | Bow and Arrow | Erosion repair on eastern portion | Low |
| | Sea Dahlia | Erosion control and closure of unauthorized spur trails with signage and fill-in planting | High |
| | Portuguese loop connector | Create a connector trail between Portuguese Bend Loop trail to Sacred Cove View trail by delineating current foot path to Palos Verdes Drive South | High |
| | | | |
| Agua Amarga | | | |
| | Lunada Canyon | Trail Delineation with vegetation trimming and signage | Low |
| Alta Vicente | | | |
| | North Spur | Trail delineation with vegetation trimming and signage | High |
| | Prickly Pear | Erosion repair and trail delineation with vegetation trimming and signage | Medium |
| | | | |
| Forrestal | | | |
| | Quarry | Closure of unauthorized spur trails with signage and fill-in planting | Low |
| | Dauntless | Closure of unauthorized spur trails with signage and fill-in planting | Low |
| | Mariposa | Bridge and trail repair | Medium |
| | Vista | Closure of unauthorized spur trails with signage and fill-in planting | Medium |
| | Intrepid | Closure of unauthorized spur trails with signage and fill | Low |
| | Exultant | Closure of unauthorized spur trails with signage and fill-in planting | Low |
| | Cristo | Closure of unauthorized spur trails with signage and fill | Medium |
| | Packsaddle | Closure of unauthorized spur trails with signage and fill-in planting | Medium |
| | Flying Mane (west) | Fill sinkholes along trail | High |
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| Reserve Name | Trail Name | Project Type | Priority |
|------------------------|--|---|----------|
| Portuguese Bend | Burma at Panorama | Install grades and dips to decrease water flow onto Panorama Trail | High |
| | North Sandbox | Trail Repair | Medium |
| | Ishibashi | Closure of unauthorized spur trails with signage and fill-in planting; bicycle jump closure | High |
| | Rim trail north of Burma Road | End-point delineation | High |
| | Peppertree | Trail erosion repair | Medium |
| | Barn owl | Trail erosion repair | Medium |
| | | | |
| San Ramon | | | |
| | Switchback | Delineate trail with signage and vegetation trimming | Low |
| | | | |
| Three Sisters | | | |
| | Barkentine | Closure of unauthorized spur trails with signage and fill-in planting | Medium |
| | Connector between Three sisters and Upper Filiorum | Erosion Repair | Medium |
| | | | |
| Vista del Norte | | | |
| | Indian peak loop | Trail Delineation with vegetation trimming and signage | Low |

Post-fire Survey for the California Gnatcatcher and the Cactus Wren at the
Portuguese Bend Reserve, Palos Verdes Peninsula (Final)



California gnatcatcher habitat dominated by quailbush *Atriplex lentiformis* and coyotebush *Baccharis pilularis* in
lower portion of Portuguese Bend Reserve, 23 June 2010 (ph. by Daniel S. Cooper)

Prepared by:

Daniel S. Cooper
Cooper Ecological Monitoring, Inc.
5850 W. 3rd St., #167
Los Angeles, CA 90036

Prepared for:

Palos Verdes Peninsula Land Conservancy
916 Silver Spur Rd., Suite 207
Rolling Hills Estates, CA 90274

August 12, 2010

Summary

We report on a spring 2010 survey of two sensitive bird species, the (coastal) California gnatcatcher *Polioptila californica californica* ("CAGN"; Federally Threatened), and the coastal-slope population of the cactus wren *Campylorhynchus brunneicapillus* ("CACW"; formerly a Candidate for federal listing; now treated as a California Bird Species of Special Concern¹), at the Portuguese Bend Reserve (c. 400 acres; Palos Verdes Peninsula Land Conservancy). Our intent was to assess the distribution and approximate population size of both taxa following a large (165-acre) wildfire in August 2009 that affected most of the northern area of the reserve, leaving the slopes above Palos Verdes Dr. South, and Klondike Canyon in the southeast, intact (Figure 1). Our survey replicates previous surveys for these two birds conducted at the site in 2006 and 2009 (Dudek 2006, Hamilton 2009), and suggests that the site has lost one of the two pairs of cactus wren that were present in 2009 (up to four territories were found in 2006). The overall distribution of California gnatcatcher remained unchanged from 2009, but our estimated numbers of birds/territories were roughly half of those from 2006. In addition, we mapped locations of three sensitive plant species (all CNPS 4.2 species) encountered during the survey, Hubby's phacelia *Phacelia hubbyi*, South Coast branching phacelia *Phacelia ramossissima* var. *austrolitoralis*, and Catalina mariposa-lily *Calochortus catalinae*, and took notes on other bird and wildlife species, as well as patches of unburned vegetation within the 2009 burn area.

Introduction

The Portuguese Bend site is located at the southwestern tip of the Palos Verdes Peninsula, and includes rugged ridges and slopes between the southern end of Crenshaw Dr. and Palos Verdes Dr. South, running along the top of coastal bluffs. The unburned habitat is a mix of naturally-occurring coastal sage scrub with a strong component of ashyleaf buckwheat *Eriogonum cinereum*, as well as sumac scrub (with lemonadeberry *Rhus integrifolia* and toyon *Heteromeles arbutifolia*) on more mesic/poorly-drained sites, interspersed with large areas of non-native vegetation (incl. tocolote *Centaurea mellitensis*, wattle *Acacia* sp.). Significant areas of dense, monotypic expanses of quailbush *Atriplex lentiformis* and patches of coast buckwheat *Eriogonum fasciculatum* and (non-native) statice *Limonium perezii* are found in the southern area of the reserve, closest to Palos Verdes Dr. South. During our surveys, we found regrowth in the 2009 burn area to be generally sparse, and dominated by coastal lotus *Lotus salsuginosus* and, on the April visit, by arroyo lupine *Lupinus succulentus* and sticky phacelia *Phacelia viscosa*.

¹ In 2008, coastal populations of the cactus wren north of southern Orange County were deemed distinct from those in southern Orange County (termed *C. b. sandiegensis*) by the most recent publication of California Bird Species of Special Concern (Shuford and Gardali 2008). However, this view is not widely held within the ornithological community, and due to their extreme isolation and a life history that is essentially identical with coastal-slope populations to the south into San Diego County, we, as well as regulatory agencies like the Calif. Dept. of Fish and Game (CDFG; L. Comrack, pers. comm., April 2008), treat the Palos Verdes birds as a sensitive species under state law. In addition, CDFG requires that all playback surveys for the cactus wren in coastal-slope Los Angeles Co. (and Ventura Co.) be conducted under a Memorandum of Understanding reserved for special-status species.

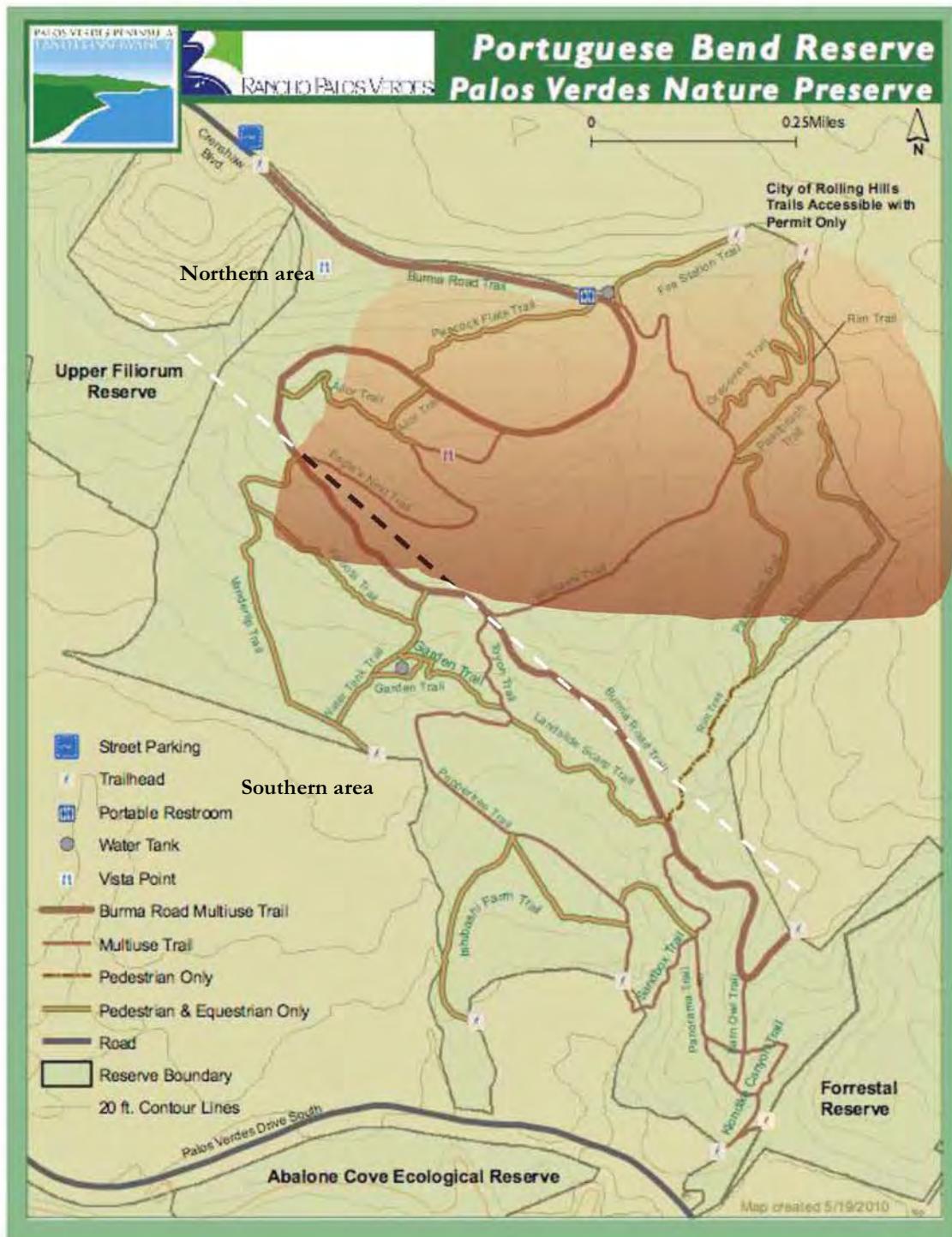


Figure 1. Trail map, Portuguese Bend Reserve. Dashed line marks the northern/southern boundary used by this survey as well as by Hamilton (2009). Red polygon denotes rough boundary of 2009 fire zone.

Following past efforts (Hamilton 2009), we divided the Portuguese Bend site into two areas, northern and southern, using the lower portion of a dirt utility road ("Burma Road Trail") as the dividing line between the two areas (Figure 1). This utility road rough corresponds to the boundary of the August 2009 fire, with the area uphill of the road mostly burned, and that downhill mostly unburned.

Methods

Surveys were conducted by Daniel S. Cooper over four visits from 26 April to 14 July 2010, under federal permit TE100008-1². All surveys were conducted between 6:00 a.m. and 12:00 p.m. to conform with protocol for presence/absence surveys of the California gnatcatcher (USFWS 1997). The northern area (see "Site Description" above) was surveyed on 26 April and 23 June; the southern area, which held all of the known territories of our two target bird species, was surveyed on 03 May, 23 June and 14 July (Table 1)³. Robert A. Hamilton (TE799557) accompanied Cooper on the 26 April and the 03 May survey, and we attempted to replicate the methods and survey route used by Hamilton (2009) as faithfully as possible.⁴ Hamilton's route was walked slowly and deliberately, and recorded calls of the California gnatcatcher and the cactus wren were broadcast occasionally. In subsequent visits (23 June and 14 July), no recordings of either species were played; however, I would periodically "pish", or imitate a typical songbird alarm call, at stops along the route, which seemed helpful in eliciting calls of both the gnatcatcher and the cactus wren. Visual scans (using Leica 8x42 Ultravid binoculars) were made of all cactus scans for cactus wren nests, and any sightings of the brown-headed cowbird *Molothrus ater*, a known parasite of songbird nests, were recorded as well. Basic weather conditions were recorded at the start and end of each visit (Table 1).

Table 1. Summary and description of survey effort, 2010.

| Date | Time | Temp. start | Temp. end | Sky | Wind | Area covered | Max. # CAGN | Max. # CACW |
|----------|-------------|-------------|-----------|----------|--------|--------------|-------------|-------------|
| 26 April | 08:10-10:30 | 60 | 67 | Overcast | <3 mph | North | 0 | 0 |
| 03 May | 08:50-11:40 | 63 | 70 | Clear | <3 mph | South | 6 | 2 |
| 23 June | 07:10-11:10 | 63 | 71 | Overcast | <3 mph | Both | 6 | 1 |
| 14 July | 07:35-11:15 | 70 | 76 | Clear | <3 mph | South | 18 | 0 |

² U.S. Fish and Wildlife protocol (USFWS 1997) requires that presence/absence surveys for the California gnatcatcher on NCCP lands (including habitat on the Palos Verdes Peninsula) be conducted a minimum of three times between Feb. 15 and Aug. 30; in addition, the southern portion of the site exceeded the recommended 100-acre limit for daily surveys outlined in the USFWS protocol. However the surveys performed herein were non-protocol surveys intended simply to quickly assess the status of known populations, and not to determine presence/absence at the site.

³ Though Hamilton (2009) only made two visits each to each area (northern and southern), we added a third visit (14 July) to the southern area improve our confidence in our estimate of the 2010 California gnatcatcher population.

⁴ Cooper's permit was under renewal at the time of the first two surveys and therefore technically inactive. Playback surveys for the cactus wren were conducted under Hamilton's Memorandum of Understanding with the California Dept. of Fish and Game.

All observations of our two target birds, as well as locations of sensitive plant species and notable vegetation, were recorded on an aerial photo, and these observations were transferred onto digital maps using Google Earth. We kept day lists of all other bird species, as well as mammal and reptile species.

Part I. Target bird surveys (California gnatcatcher, cactus wren)

Results

California gnatcatcher

We detected the California gnatcatcher on three of the four visits, and on each of the three visits to the southern area of the site (Figure 2). All gnatcatchers observed were within the southern area, with the exception of three birds - possibly a family group, located along the southern border of the northern area (just inside the 2009 burn zone) on 14 July. Our two-three visits were insufficient to estimate population size, reproductive success, or even territory location; however, we attempted to estimate a maximum territory number and their approximate locations based on the three visits, for comparison purposes to previous surveys, which was seven (7) active territories in 2010 (Figure 3). Of course, the actual number could be lower than this, as not all individuals or even pairs were necessarily holding territories (or were different from individuals/pairs seen elsewhere on the site).

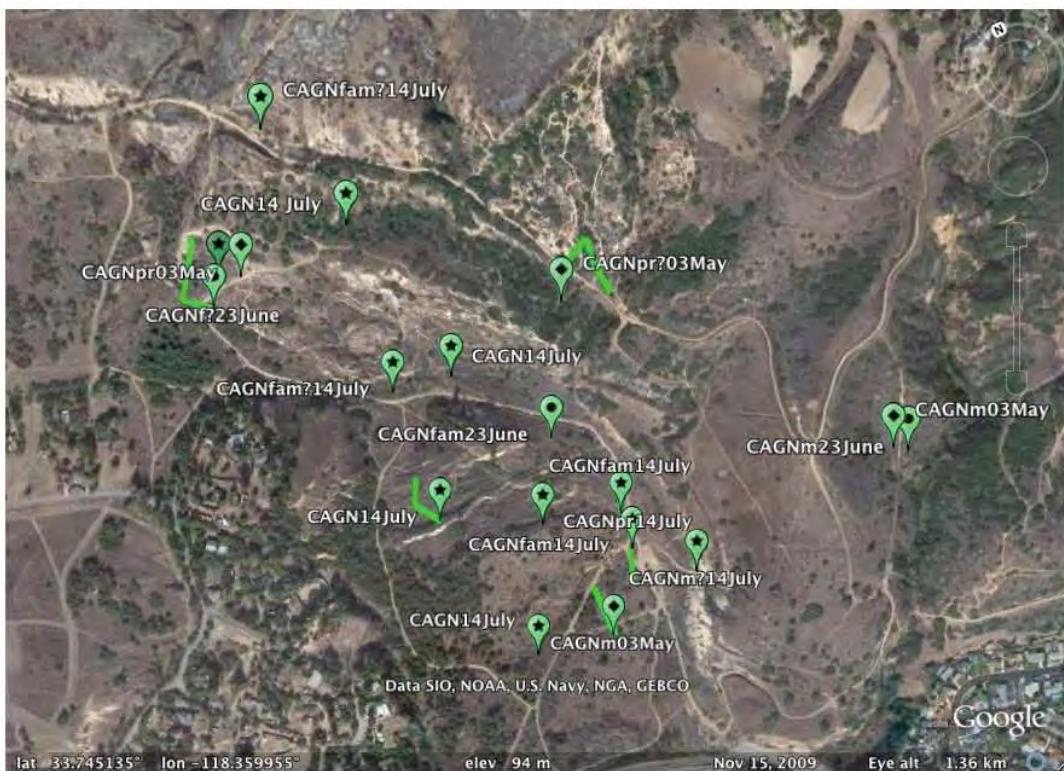


Figure 2. Map of all 2010 California gnatcatcher (CAGN) sightings. Green pins represent sightings and are marked according to date with either a diamond (03 May), a circle (23 June) or a star (14 July); dimmed green pin with black star (at upper left) was a single bird on 14 July.



Figure 3. Schematic map of 2010 California gnatcatcher (CAGN) territories, estimated from sightings. Territories are numbered arbitrarily. Green circles correspond to locations where one or more birds were seen on two or three dates; yellow circles are of locations with sightings from just one date.

Cactus wren

We found cactus wren in just one small area of the site, in dense, cactus-rich coastal sage scrub at the extreme eastern edge of the southern area, within the Klondike Canyon drainage adjacent to the Forrestal Reserve. Two birds, an apparent pair, were detected here on 03 May, and a single bird was here on 23 June. In addition, we (Hamilton and Cooper) clearly heard (but could not see) a calling cactus wren ("chugga-chugga" call) from a slope near the center of the southern area (see Figure 4) on 03 May, possibly coming from a small, isolated cactus patch within non-native grassland. While what was possibly this bird was heard very briefly on 14 July (by Cooper), no visual confirmation was obtained, and due to the distance at which this sound was heard, and the prevalence of the northern mockingbird *Mimus polyglottos* here, a known mimic of cactus wren calls, we do not consider this a cactus wren territory. Therefore, we estimate a maximum of one (1) cactus wren territory at the Portuguese Bend Reserve for 2010.

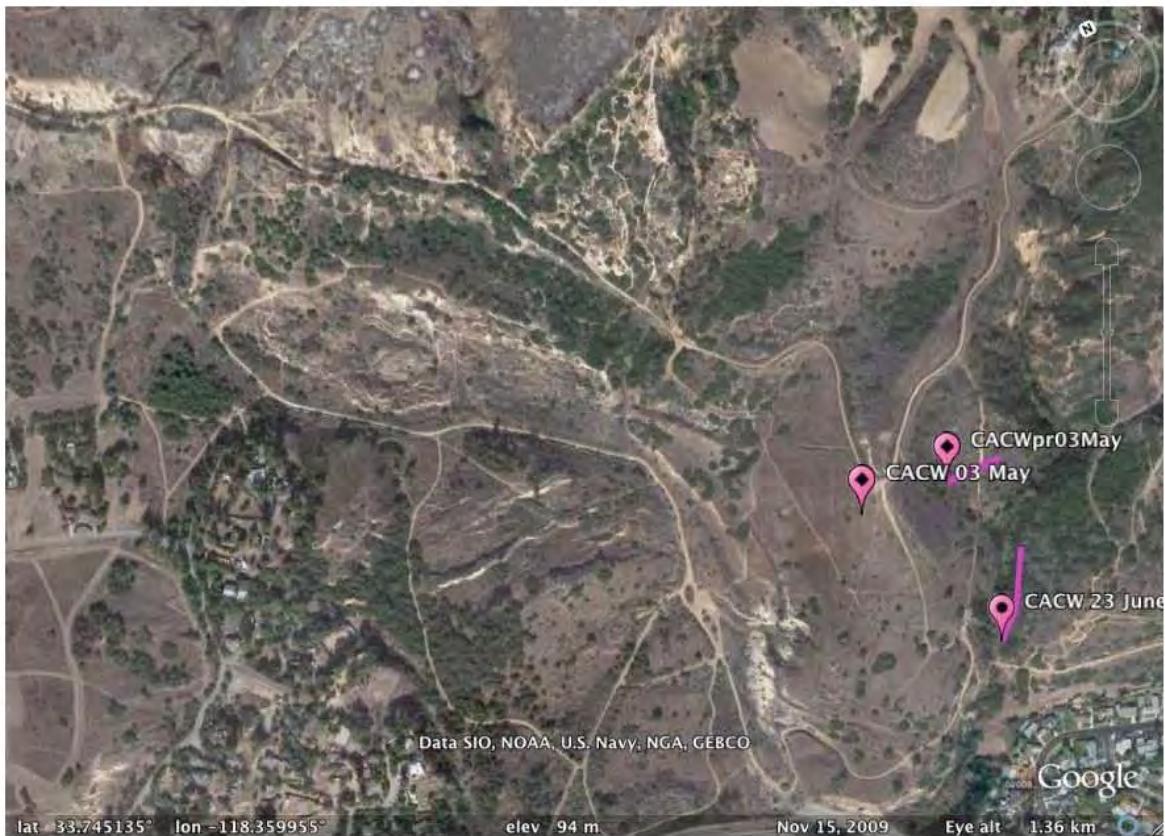


Figure 4. Map of 2010 cactus wren (CACW) sightings, which suggest a single territory in the southeastern corner of the reserve.

Discussion

Table 2 compares survey effort and results of the 2010 survey with previous surveys. Overall, 2010 results for California gnatcatcher conform to those found in 2009, with an estimated 7 territories, all in the southern area. However, one of the two cactus wren territories found in 2009 was absent in 2010, and likely lost due to complete destruction of the birds' cactus patch by the August 2009 fire. Counts of brown-headed cowbird were similar in 2010 as in 2009 (zero in both years). A year-to-year comparison is provided in more detail below.

Table 2. Comparison of 2010 results and effort with prior surveys.

| | Dudek 2006 | Hamilton 2009 | Cooper 2010 |
|--------------------------------------|-------------------|----------------------|--------------------|
| Date range | 15 June - 18 Aug. | 1 Apr. - 15 May | 26 Apr. - 14 July |
| # Days | 6 | 4 | 4 |
| # Hours (total) | 29:50 | 18:55 | 12:30 |
| # California gnatcatcher territories | 14 ⁵ | 7 ⁶ | 7 |
| # Cactus wren territories | 4 ⁷ | 2 | 1 |
| # Brown-headed cowbird | ? | 0 | 0 |

California Gnatcatcher

When compared to survey effort in 2006 and 2009, our 2010 survey was comparable to the number of visits in 2009, but fewer than those in 2006 (Table 2). The brevity of the 2010 survey was in part due to the dearth of vegetation in the northern section owing to the 2009 burn, which resulted in much quicker surveys there. The timing of the three surveys was also slightly different; the 2010 surveys were also conducted during a somewhat later window than in 2009, but ended earlier than in 2006. It is possible that the late dates of some of the 2006 surveys may have inflated the final estimate of the number of gnatcatcher territories on the site that year, as we found young-of-the-year (closely resembling adult birds) to be common here by mid-July, and the 2006 surveys extended into mid-August, when first-year birds would have been foraging independently of adult birds, and possibly behaving like adults.

None of the three California gnatcatcher territories reported by Dudek in the northern area in 2006 was observed in either 2009 or 2010 (CCG1, CCG2, and CCG14; see Table 3). Of the 14 territories of California gnatcatcher reported (site-wide) by Dudek in 2006, one was in an area not visited by Cooper in 2010 (CCG3, near the "Vanderlip Trail" in the far west), so its 2010 status cannot be assessed. However, of the ten territories found in 2006 in the southern area that were re-visited, we found at least one individual California gnatcatcher at or near all of them during at least one visit in 2010, suggesting that the overall distribution of gnatcatchers from 2006 might not be appreciably different today, even if the estimate of territory numbers - a much more subjective process - differed.

Year-to-year comparisons of total pairs and territories are especially difficult to make because neither Dudek (2006) nor Hamilton 2009 reported dates of each sighting, but rather lumped them all together on the same map; for example, four gnatcatcher pairs found in the southern area by Dudek in 2006 were within 200 meters of each other in continuous coastal sage scrub habitat (CCG5, 6, 7 and 8), but because there were no dates or times associated with them, it is impossible to know if these represent duplicate counts of the same pairs, or

⁵ Two of these territories (incl. pairs and family groups) were within 200 meters of other territories, and may represent duplicate counting. One territory found by Dudek (2006) was in an area not visited by Cooper (2010).

⁶ Reported by Hamilton (2009) as "7 territories"; however, a review of the maps in the report shows a four paired birds and 3 "lone adults", which Hamilton also considered territories (pers. comm.).

⁷ Reported by Dudek (2006) as "four lone adult" birds, at least some of which were probably actually paired, or at least involved males attempting to hold territories (see Hamilton 2009).

separate territories. If they *were* duplicates, this would reduce the total number of 2006 territories in the southern area from 11 down to seven (i.e., comparable to the estimate in 2009 and 2010). Therefore, while it seems clear that territories have been lost in the northern area since 2006 (no gnatcatchers were found here in either 2009 or 2010), it is less clear that they have declined in the southern area; our three visits were simply too few to confirm this.

Interestingly, two "new" territories reported by Hamilton and/or Cooper in 2009 and 2010 (CAGN "C"/CAGN 2 and CAGN 5) were in areas where *no* birds were found in 2006,¹ and two birds found by Cooper in 2010 (mapped as CAGN 4) were in an area where unrecorded by Hamilton the year before, but where Dudek recorded a family group in 2006 (CCG10). While this suggests that usage locations may shift around from year to year, with so few visits, and many so late in the breeding season, it is difficult to conclude that each sighting of a pair or even a family group represents a definite breeding territory at the point of observation.

As for the effects of the 2009 fire, although most of the northern area burned in August 2009 (i.e., between the surveys by Hamilton and Cooper), the fact that Hamilton did not find gnatcatchers in the northern area in early 2009 suggests that these territories had become inactive prior to the fire; or, it is possible that the sightings from 2006 were transient/post-breeding individuals and not actual breeding territories.

¹ The survey route used by Dudek (2006) in the southern area differed from that of Hamilton (2009) and Cooper (this study); comparably little coverage was made in 2006, presumably because the southernmost section of the reserve area is outside the legal boundaries of PVPLC ownership.

Table 3. Summary of individual pairs/likely territories of CAGN found by Dudek (2006) vs. Hamilton/Cooper

| Pair name | Description | Area | Trail | Hamilton 2009 | Cooper 2010 |
|--------------------|---------------|---------------------|----------------------------------|---|--|
| CCG1 | Pair | North | Peacock Flats Tr. | Not found | Not found |
| CCG2 | Pair | North | Burma Rd./Ailor Tr. | Not found | Not found |
| CCG3 | Pair/nest | South | Vanderlip Tr. | Not found | Not visited |
| CCG4 | Pair | South | Landslide Scarp Tr. | Lone adult (CAGN "F") nearby | Lone adult on 14 July |
| CCG5 | Pair + 3 juvs | South | Burma Rd. @ Sandbox Tr. | Pair/family (CAGN "A") and lone adult (CAGN "G") nearby | "CAGN 7" (pair) nearby on 03 May |
| CCG6 ⁹ | Pair + 1 juv | South | Burma Rd. east of Sandbox Tr. | See above | See above |
| CCG7 | Pair | South | Klondike Cyn. Tr. (lower) | Pair/family (CAGN "B") nearby | "CAGN 1" (male 03 May, 23 June) |
| CCG8 ¹⁰ | Pair | South | Klondike Cyn. Tr. (upper) | See above | See above |
| CCG9 | Pair + 1 juv | South | Peppertree Tr. (lower) | Pair/family (CAGN "D") | "CAGN 3"; family on 23 June, single nearby on 14 July. |
| CCG10 | Pair + 2 juvs | South | Peppertree Tr. (middle) | Not found | "CAGN 4" (2 birds) on 14 July |
| CCG11 | Pair | South ¹¹ | Burma Rd. south of Ishibashi Tr. | Lone adult (CAGN "F") nearby | "CAGN 6" (family? - 3 birds) on 14 July |
| CCG12 | Pair | South | South of watertank | Not found | "CAGN 5" nearby; pair on 03 May, birds on 23 June (2), 14 July (1) |
| CCG14 | Pair + juv | North | Ishibashi Tr. (lower) | Not found | Not found |
| CCG15 | Pair + 2 juvs | South | Ishibashi Farm Tr. @ Sandbox Tr. | Lone adult (CAGN "E") nearby | "CAGN 3"; family on 14 July |
| N/A | N/A | South | South of Sandbox Tr. | Pair/family (CAGN "C") | "CAGN 2"; family on 14 July |

Cactus Wren

For the cactus wren, we document a clear decline from 2006, when four territories were estimated for the site¹², to 2009 when two were estimated, to 2010 when only a single pair

⁹ CCG6 and CCG5 130 m apart within continuous habitat; possibly the same birds.

¹⁰ CCG7 and CCG8 180 m apart within continuous habitat; possibly the same birds.

¹¹ This location falls on the border of the northern and southern areas, but because it is contiguous with unburned habitat to the south (and very little habitat remained in 2010 north of here), we include with the southern area.

was encountered. One of the locations where a cactus wren was observed in 2006 and where a pair was present on territory in 2009 (in the southern part of the northern area, just north of the lower Burma Rd.) burned in August 2009, eliminating essentially all live cactus here by the time of the 2010 survey (Figure 5), and we found no wrens here on any of the four visits (Table 4)¹³. Interestingly, the 2006 survey did not record cactus wren in the Klondike Canyon area where birds were present in both 2009 and 2010; it is possible that the bird(s) found near the Barn Owl Tr. in 2006 (CCW1, CCW2) moved east to Klondike Canyon, or that a pair from Forrestal moved slightly west. Either way, the cactus wren should be considered nearly extirpated from the site at this point, and future sightings anywhere on the reserve should be followed up with visits to detect new territories.

Table 4. Summary of individual pairs/territories of cactus wren, by survey year.

| Pair name (2006) | Description | Area | Location | Hamilton 2009 | Cooper 2010 |
|-----------------------------|--------------------|-------------|-------------------------------|--------------------------|---|
| CCW1 | Adult | South | Burma Rd. no. of Barn Owl Tr. | Not found | Not found |
| CCW2 | Adult | South | " " | Not found | Not found |
| CCW3 | Adult | North | E. of Eagle's Nest Tr. | CACW "A" (pair) | Not found (habitat burned) |
| CCW4 | Adult | North | Burma Rd. @ Ailor Tr. | Not found | Not found (habitat burned) |
| N/A | N/A | South | Klondike Cyn. Tr. (lower) | CACW "B" (Pair) | Pair on 03 May, single nearby on 23 June (not visited 14 July) |
| N/A | N/A | South | Panorama Tr. | Not found | Single calling bird on 03 May ¹⁴ |

¹² Based on the map provided by Dudek (2006), two of the four cactus wrens observed were close enough to be considered potentially a mated pair; see Hamilton (2009) for a discussion of the challenges in interpreting the 2006 cactus wren data.

¹³ Located near the border of the northern and southern areas, this cactus patch was surveyed on all four visits in 2010.

¹⁴ Possibly heard on 14 July (twice, possibly northern mockingbird imitation)



Figure 5. Burned cactus scrub (red arrow) at site of 2006 and 2009 observations of cactus wren(s), just east of Eagle's Nest Trail (ph. 26 April 2010, D.S. Cooper).

Part II. Observations of vegetation, other wildlife

Sensitive plants

Three sensitive plants (CNPS 2010) were noted incidentally during surveys, and mapped (Figure 6). They are:

Hubby's phacelia *Phacelia hubbyi* (formerly *Phacelia cicutaria* var. *hubbyi*)

CNPS 4.2 (limited distribution)



low elevations.

This distinctive annual, with its "pigtail" inflorescences, was found to be a common plant on the steepest slopes of the property, dominant along the uppermost trail down from Crest Rd. (at left, on 26 April 2010), where it was found to form a monoculture in late April and May. Formerly considered a variety of the widespread caterpillar phacelia *Phacelia cicutaria*, it is now considered to be a distinct species, with a very small range, mainly from Santa Barbara to Los Angeles County, including the Channel Islands, at

South Coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*

CNPS 4.2 (limited distribution)



This localized form of a more widespread perennial is found in coastal environments in southern California from Santa Barbara County south. Two populations were observed at Portuguese Bend, both in the southern area. The total extent is much less than 1 acre, but plants appeared in robust condition and were blooming on 14 July (when discovered, at left). This is a common species on relict coastal dune systems in the Los Angeles area (pers. obs.), and probably elsewhere on sandy soils on the Palos Verdes Peninsula.

Catalina mariposa-lily *Calochortus catalinae*
CNPS 4.2 (limited distribution)



This lily is restricted to heavy clay soils within a variety of open habitats on the coastal slope from San Luis Obispo County south. It is (or was) especially common on the Palos Verdes Peninsula, and large fields of several thousand plants were observed primarily in the lower portion of the 2009 burn area (at left, on 26 April 2010). A handful of plants were also present along the upper portion of the steep trail into Klondike Cyn., and are probably more widespread on the property. It is absent where weeds and non-natives

are dominant, and appears to strongly favor undisturbed (from grading/discing) soils, though it can persist (and even thrive) with occasional fires.

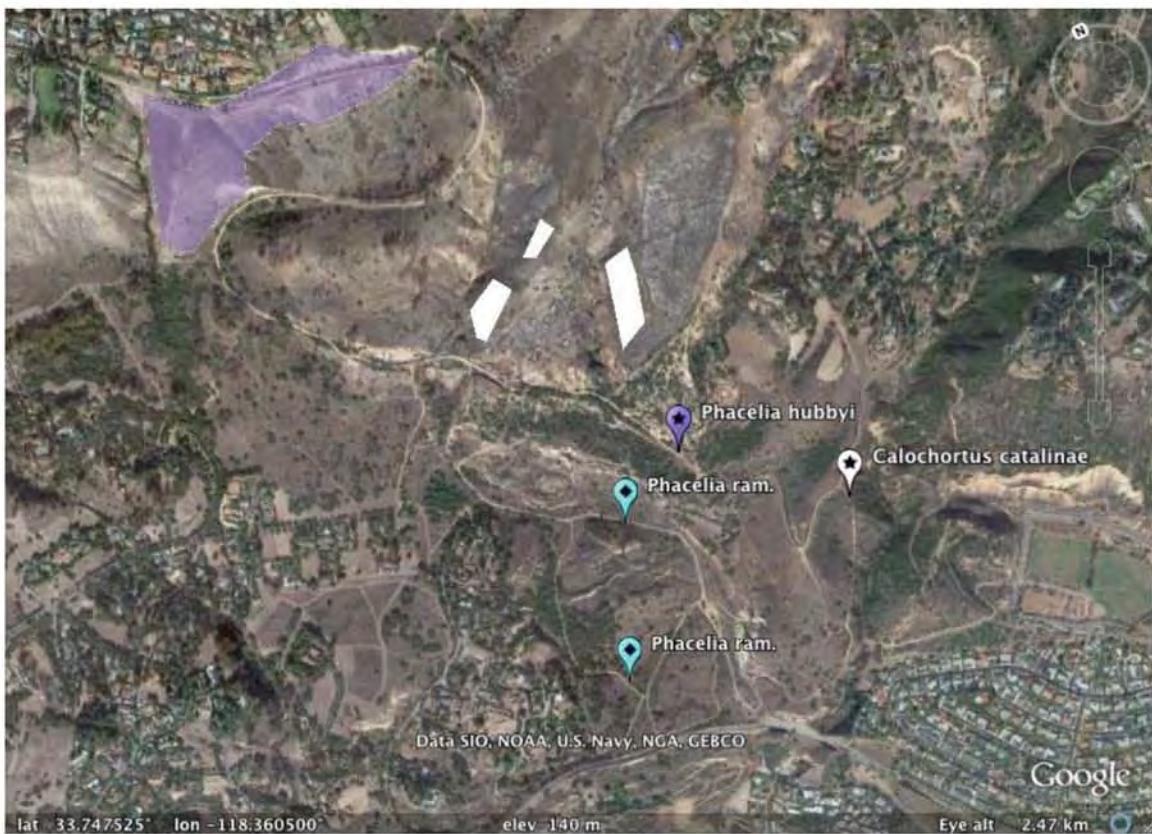


Figure 6. Locations of sensitive plants detected incidentally at Portuguese Bend (this study), including *Phacelia hubbyi* (violet), *Phacelia ramossissima* var. *austrolitoralis* (blue) and *Calochortus catalinae* (white).

Unburned habitat remnants

While most of the northern portion of the Portuguese Bend Reserve was burned in the August 2009 fire, several areas of unburned vegetation within the fire footprint were documented. The largest was a southeast-facing slope near the uppermost portion of the reserve itself, which featured high-quality coastal sage scrub habitat with ashyleaf buckwheat, purple sage *Salvia leucophylla* and California sagebrush (Figure 7). While we were surprised to not have detected the California gnatcatcher in this patch, neither prior studies detected it here either, possibly due to its isolation from other occupied habitat.

Farther south, areas of unburned coastal sage scrub as well as "mesic scrub" (high, dense scrub with a strong component of giant wildrye *Leymus condensatus* and poison-oak *Toxicodendron diversiloba*) was encountered along the Burma Rd. Trail, and the southern of the two hairpins (Figure 7). Finally, small discrete patches of coastal sage scrub persisted along the roadside here, to the south, and to the north within the northern of the two hairpins of Burma Rd. Trail (Figure 7). It should be noted that even within the most intensely burned portions of the 2009 fire zone, we observed vigorous sprouting by native plants, including annual forbs, perennial subshrubs (esp. ashyleaf buckwheat) and larger crown-sprouting shrubs such as lemonadeberry.



Figure 7. Major areas of unburned native vegetation within Portuguese Bend Reserve, summer 2010. Large yellow polygon denotes the most intact patch of coastal sage scrub, in the northern portion of the reserve.

Wildlife and "non-target" birds

We observed one species of mammal, the Audubon's cottontail (*Sylvilagus auduboni*)¹⁵, which is common to abundant in larger blocks (>100 acres) of open space in the Los Angeles (pers. obs.). We found the western fence-lizard *Sceloporus occidentalis* to be common at the site, and encountered a single individual side-blotched lizard *Uta stansburiana* in the large patch of coastal sage scrub near the top of the northern area on 26 April, and a young western rattlesnake *Crotalus viridis* nearby on the same day.



Figure 8. Audubon's cottontail, showing the fluffy white tail, "salt-and-pepper" pelage, and chestnut tone on the nape and limbs that distinguishes this species from the brush rabbit, previously reported (in error).

In addition to the California gnatcatcher and the cactus wren, two bird species observed are considered sensitive by Calif. Dept. of Fish and Game, Cooper's hawk *Accipiter cooperii* and Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*, both formerly Bird Species of Special Concern, since "downlisted" to WatchList status. A pair of Cooper's hawks was observed on 03 May over Klondike Canyon, and may be nesting in the area, possibly near Forrestal Reserve. Up to three singing rufous-crowned sparrows were seen on the site, and the species is almost certainly a breeding resident on the reserve.

We made several observations of breeding birds, including:

Red-tailed hawk *Buteo jamaicensis*: Occupied nest near Peppertree Tr. on 03 May (at least one young bird heard and seen thereafter).

¹⁵ Dudek (2006) reported the brush rabbit (*Sylvilagus bachmani*) and no Audubon's cottontail, clearly in error; the brush rabbit is a rare species found in remote foothill sites at the edges of the Los Angeles Basin (e.g., western Santa Monica Mountains, pers. obs.).

Cooper's hawk *Accipiter cooperii*: Pair over Klondike Cyn. (03 May).
Mourning dove *Zenaida macroura*: Nest-building on 23 June.
Bushtit *Psaltriparus minimus*: Nest-building (26 April), family groups on subsequent visits.
Bewick's wren *Thryomanes bewickii*: Family group on 23 June.
House wren *Troglodytes aedon*: Adult with begging juvenile (fully-grown) on 23 June.
Common yellowthroat *Geothlypis trichas*: Family group on 23 June, 14 July.
California towhee *Pipilo crissalis*: Family group on 23 June.
Song sparrow *Melospiza melodia*: Family groups on 23 June, 14 July.
Indigo bunting *Passerina cyanea*, lazuli bunting *P. amoena*: A mixed pair (male indigo with female lazuli) was observed and photographed on 23 June near the center of the northern area of the reserve. This pairing has been documented before in California (Rowe and Cooper 1997), but is apparently unprecedented on the Palos Verdes Peninsula (*fide* K. Larson); even lazuli bunting, the "expected" species of this species pair, is a scarce and irregular nester on the coast of Los Angeles County.
Lesser goldfinch *Spinus tristis*: Family group on 23 June.
Hooded oriole *Icterus cucullatus*: Family groups on 23 June.

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